EXPLORING CONSUMER ATTITUDES AND PURCHASE INTENTIONS: UNRAVELING KEY INFLUENCERS IN CHINA’S GREEN AGRICULTURAL PRODUCTS MARKET

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Abstract

This study explores the factors influencing consumer attitudes and purchasing intentions towards green agricultural products in China, as consumers have shown increased awareness due to heightened health and wellness consciousness. A random sampling method generated a sample for a questionnaire survey, yielding a response rate of 88.7 percent. Both descriptive and inferential statistics were used to analyze the data, including Pearson Correlation and regression analysis. The research found that Chinese consumers exhibit a weakly positive attitude and neutral purchasing intention for green agricultural products. Furthermore, it identified a strong correlation and significant relationships between factors such as awareness, consumption values, social influence, and health consciousness and both attitude and purchase intention. The study also confirmed that attitude positively and significantly impacts purchase intention. This research enriches the understanding of consumer behavior in the green agricultural product market and aids marketers in making informed decisions.

Keywords: Customer Attitude, Green Agriculture, Product, China, Purchase Intention

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1. INTRODUCTION

As the global human population increases and climate change intensifies, there has been a rise in the production of high-yield crops using transgenic and ripening technologies to meet growing demand (Wang et al., 2019). However, this has also heightened concerns about the safety, health, and environmental impact of these products. Consequently, the focus on product quality has been growing steadily. In China, people are paying increasing attention to food quality, compelling food
companies to improve their offerings (Guo et al., 2019). Green agricultural products are perceived as having enhanced value and safety due to the absence of questionable ingredients and chemical residues. The Chinese government has implemented regulatory standards to maintain quality, such as the China Organic Standard certification, which guarantees the absence of genetically modified organisms (GMO), chemical and synthetic products, and environmental pollution, and promotes animal welfare, soil fertility conservation, and climate and environmental protection (ECOCERT, 2019). Food labeling has also become mandatory to inform consumers about the quality of the products (Wang et al., 2020). As a result, the Chinese green agricultural product market has experienced growth, with over 14,000 local products certified as green agricultural products, valued at CNY68 billion or US$10.3 billion in 2019 (Neo, 2020).

There is a high awareness of green products among young Chinese people, and there is a growing demand for organic baby food among working young mothers (Li et al., 2019; Neo, 2020). As such, the market for green agricultural products in China is expected to expand. However, previous studies using a single variable (i.e., economic, environmental, and social aspects) have found green products to be increasingly emphasized among young Chinese people (Wang et al., 2019). The goal of sustainable development has become a focal point worldwide, as it positively influences health, quality of life, environmental sustainability, and economic progress (Awan, 2022). Sustainability is considered an integral part of systems theory, studied as a balance between economic, environmental, and social aspects (Sarita et al., 2022). The benefits of green products are increasingly emphasized among young Chinese people, and there is a growing demand for organic baby food among working young mothers (Li et al., 2019; Neo, 2020). As such, the market for green agricultural products in China is expected to expand. However, previous studies using a single variable (i.e., economic, environmental, and social aspects) have found green products to be increasingly emphasized among young Chinese people (Wang et al., 2019). The goal of sustainable development has become a focal point worldwide, as it positively influences health, quality of life, environmental sustainability, and economic progress (Awan, 2022). Sustainability is considered an integral part of systems theory, studied as a balance between economic, environmental, and social aspects (Sarita et al., 2022). The benefits of green products are increasingly emphasized among young Chinese people, and there is a growing demand for organic baby food among working young mothers (Li et al., 2019; Neo, 2020).

The increasing awareness of environmental concerns and sustainable practices has led to a growing interest in green agricultural products worldwide. In the context of China, understanding consumer attitudes and purchase intentions towards green agricultural products is crucial for promoting their consumption and supporting the country's sustainability efforts. To gain insights into these aspects, this study aims to investigate the following research questions:

**RQ1:** What are the attitudes and purchase intentions of Chinese consumers towards green agricultural products in China?

**RQ2:** Which core factors influence Chinese consumers' attitudes and purchase intentions towards green agricultural products in China, and how can these factors be leveraged to increase the purchase and consumption of such products?

By addressing these research questions, we hope to suggest practical strategies for increasing the purchase and consumption of green agricultural products. As a result, this study adds to the existing literature and theory by providing fresh insights and potential nuances that influence consumer behavior in this specific market.
products in China, ultimately contributing to a more sustainable agricultural sector.

The remainder of the paper is structured as follows. Section 2 offers a comprehensive review of related concepts, themes, and theories from previous literature and studies, highlighting the current state of knowledge and identifying gaps. Section 3 outlines the research methods adopted in the study, justifying their appropriateness and explaining how data was collected and analyzed. Section 4 presents the results of the analysis, showcasing the empirical evidence gathered during the research process. Section 5 interprets the findings in relation to the literature and theory covered in the study, drawing connections and highlighting implications for the research topic. Section 6 summarizes the key insights from the study, discusses limitations, and offers suggestions for future research in the field of green agricultural products and consumer behavior.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Green purchase behavior based on the theory of planned behavior (TPB)

One of the primary theoretical approaches in marketing is the theory of consumer behavior. This theory posits that psychological elements, individual qualities, and social factors all influence customers' purchasing decisions (Engel et al., 1995). Social factors, such as family, friends, and social class, also impact consumer behavior. The theory of consumer behavior aids in explaining green purchase intentions because consumer purchase intention is a form of embodiment of consumer purchase behavior (Abbasi et al., 2021).

Green purchasing is a behavioral factor that encompasses environmentally friendly behavior from consumers. Green purchases involve buying environmentally friendly products, also known as green products. Thus, green purchases can be defined as purchasing products that can reduce environmental impact. Green products are interchangeable with the terms “environmentally friendly products” and “ecological products” (Lasuin et al., 2014).

Green buying behavior may have different outcomes in various demographic contexts due to the complexity of consumer green buying behavior (Ali & Ahmad, 2012). In other words, green purchase behavior may be influenced by demographic factors such as gender, ethnic group, and other demographic factors (Lasuin et al., 2014). Theories that explain the relationship between attitudes and behavior include the theory of planned behavior (TPB), which can predict behavior under control. TPB states that one’s intention is the most crucial and direct predictor of specific behaviors, including the buying behavior of green products.

Figure 1. TPB model

![TPB model](image)

The TPB (see Figure 1) is highly significant as it is useful for measuring consumer attitude and purchase intention. This theory relies on an expectancy-value formulation to explain the formation of attitude toward behavior (Ajzen, 2020). The expectancy-value framework is a widely applied model for understanding the link between attitude and behavior, assuming that an attitude is the sum of a number of beliefs concerning the outcomes of an action multiplied by the expected value. The elements of the theory, which affect behavior intention — such as subjective norms, attitude, and perceived behavior control (see Figure 1) — have been used to explore the purchase decisions of organic or green food (Maichum et al., 2016). Instead of adopting the original TPB, this research can evaluate the purchase intention toward green agricultural products more effectively by addressing the limitations of this model.

Researchers include knowledge, awareness, and information in influencing the attitude of customers related to subjective norms, as well as social norms, animal welfare, health consciousness, and environmental concerns (Wang et al., 2020). Accordingly, the current study adopts this model to explain attitude and predict its association with purchase intention. It includes other variables, such as 1) consumer awareness, 2) consumption values, 3) social influence, and 4) health consciousness (see Figure 2). The choices of these variables are informed by the following reasons. Firstly, awareness may be important to influence customer attitude since it provides knowledge about goods and services to customers. Secondly, Chinese consumers have also been said to be health-conscious, which may affect their attitude toward green agricultural products (Neo, 2020). Thirdly, perceived behavior control is the extent to which a person feels they can control when taking a particular action (Ajzen, 2020). This is affected by their control beliefs. Thus, it is expected that personal values or customer values will affect their attitude as well as purchase intention toward green agricultural products. Finally, social influence reflects subjective norms in the TPB, which refers to the social pressure perceived by individuals when taking a particular action (Ajzen, 2020). Examining these factors provides an opportunity to understand fully the behavior of Chinese consumers regarding green products. Based on the previous explanation, the research model in Figure 2 can be formulated as follows:
2.2. COVID-19 pandemic awareness

The COVID-19 pandemic led to an economic crisis and health emergency, threatening energy-efficient consumption, sustainable food diversity, and household nutrition security. Awareness of maintaining health and resilience during the COVID-19 pandemic is essential for every community. This phenomenon is related to the growing awareness of environmentally friendly products, which are increasingly promoted as a way to increase environmental consciousness in society (Awan et al., 2019). The government encourages the public to maintain their health, one way of which is by consuming green agricultural products. Concern for the environment and health has become an issue across various circles and has changed people’s perspectives and lifestyles. A healthy and natural lifestyle with the slogan “back to nature” is a major trend today because of the impact of the COVID-19 pandemic. Green products are often considered safe for both health and the environment. With the increasing public awareness of environmentally friendly products and the growing attention to health aspects, companies are now implementing environmental issues as part of their marketing strategies, making them famous and recognized as green marketing.

2.3. Consumer attitude and purchase intention towards green products

Consumer attitudes are responses to consumer feelings that can take the form of liking or disliking a particular object, such as consumer attitudes toward product performance, company brands, product prices, or products themselves (Hoque et al., 2018). Attitude refers to the inclination to respond unfavorably or favorably to a specific item, event, or person (Solomon et al., 2013). It is a psychological way of evaluating a particular object in a favorable or unfavorable manner (Djakasaputra et al., 2021). In other words, consumer attitude consists of reactions to or assessments of a product or brand. Marketers should understand the components of attitudes (either cognitive or emotional) that need to be targeted to create a more positive attitude toward a brand, as attitude is associated with the intention to use a specific brand (Solomon et al., 2013).

Intentions are thought to reflect the factors that motivate and influence behavior. They are representations of how much effort individuals are willing to exert. The stronger the intention to perform a behavior, the more likely a person is to carry it out (Ajzen, 1991). Therefore, put simply, purchase intention is an individual’s intention to purchase a given product or brand. More specifically, purchase intention is the likelihood or possibility of consumers buying a product.

Consumer attitudes toward green products have increased in China and globally. In India, scholars such as Mehta and Chahal (2021) indicate that there is a positive attitude among Indian consumers toward green products. Yang (2017) also examined consumer behaviors toward green products in Taiwan and found that consumer awareness and attitudes toward green brands have increased significantly. In China, some scholars have found a positive attitude toward green products (Fang & Levy, 2015; Tang et al., 2014; Zhao et al., 2014). Fang and Levy (2015) conducted a cross-country study between China and France and revealed a positive attitude toward green food products in both countries. Others have indicated that Chinese consumers are willing to buy green food products (Li et al., 2019; Xu et al., 2018; Yu et al., 2014). For example, Xu et al. (2018) studied the willingness of Chinese consumers to buy organic rice and demonstrated that Chinese consumers are ready to pay a higher price for green products rather than conventional products. Similarly, Yu et al. (2014) indicated that Chinese consumers are ready to pay more than 40% for green agricultural products. However, Gan et al. (2014) found a negative attitude and purchase intention toward green products due to their high price. Policymakers and practitioners are increasingly viewing the prevention of Earth’s destruction as an important global health issue. There is substantial agreement on the need to prevent damage to the Earth in cooperation with manufacturing companies. However, at present, there is a lack of understanding of what governance practices are most effective and should be applied to achieve the targets of a green world (Awan et al., 2020).
2.4. Factors that influence consumer attitude and purchase intention toward green agricultural products

2.4.1. Consumer awareness

Consumer awareness plays a role in consumer behavior, as consumers tend to choose products or services they are familiar with. Consumer awareness is a concept used to describe the understanding of goods and services, as well as knowledge about consumer production laws and consumer rights, including the right to be informed about the purity, potency, price, and quality of products, and the right to protection of health and safety. It is the act of ensuring that consumers have information about goods, services, and their rights. As such, it is also called consumer knowledge. Abrar et al. (2018) conducted a study examining Pakistanis' attitudes and purchase intentions toward organic textile products using the TPB and revealed consumer awareness or knowledge as one factor affecting attitudes and purchase intentions.

Consumers also tend to be motivated by their awareness of the effects of products on the environment. When consumers are aware that green products are environmentally friendly, they have positive evaluations about these products and show higher purchase intentions (Irianto, 2015). Basha et al. (2015) reveal that overall consumer awareness of green food products is increasing and positively influences attitudes toward purchase intentions.

However, consumers can be aware of green agricultural products but show no interest in purchasing them (Shrestha, 2020). Some efforts put in place to increase consumer knowledge may have little impact on consumer behavior and can create confusion among consumers, thus having no impact on purchasing behavior (Moisander, 2007). It is not necessarily true that increased consumer awareness changes consumers’ purchasing behaviors (Pedersen & Neergaard, 2006).

This implies that it remains uncertain whether consumer awareness has a definitive impact on purchase intention (Abbasi et al., 2021). Thus, in the Chinese context, their relationship needs further verification. Despite the inconsistencies, the current study suggests that consumer awareness of green agricultural products has a positive effect on consumer attitudes and purchase intentions toward these products. Thus, the first hypothesis is constructed as follows:

H1: Consumer awareness positively influences consumer attitude and purchase intention towards green agricultural products.

2.4.2. Personal values

Personal values represent principles that guide behaviors and are closely connected to individual motivations (Alcúdia & Delgado, 2020). These values play a crucial role in determining consumer behavior. Peattie (2010) notes that a new green consumption trend has emerged, in which consumer norms and values have a strong influence on the consumption process. Li et al. (2012) argue that personal values shape people’s main opinions about their lifestyles and guide and determine their attitudes and behaviors towards products and services. In other words, personal values affect both attitudes and consumer purchase intentions. This is in line with Jayawardhena (2004), who discovered that personal values were significantly related to attitudes towards e-shopping, which in turn directly predicted purchase intention. In other words, consumer attitudes simply mediated the relationship between personal values and purchase intention (behavior).

Personal values may be linked to purchase intention and consumer attitudes regarding green agricultural products. Ayyub et al. (2021) investigated the drivers of purchase intention towards green food products in Pakistan and found moral attributes, such as personal values and moral norms, to be significant factors affecting consumers’ intention to purchase green food products. Abrar et al. (2018) also found that personal norms/values positively related to consumer attitudes toward organic textiles in Pakistan. Therefore, this study hypothesizes that personal values significantly influence consumer attitudes and purchase intentions toward green agricultural products. Thus, the second hypothesis is constructed as follows:

H2: Personal values significantly influence consumer attitude and purchase intention towards green agricultural products.

2.4.3. Social influence

Social influence, similar to subjective norms in the TPB model, has not been extensively examined in relation to Chinese consumers’ attitudes and purchase intentions toward green agricultural products. Specifically, in TPB, subjective norms represent social influences or pressures and encompass the opinions and approval of family, friends, and other trusted individuals (Ajzen, 1991). Li and Jaharuddin (2020) are the only ones who have investigated this construct and its effect on Chinese consumers’ attitudes toward purchasing organic foods. Although they found a positive, significant relationship between subjective norms and consumer attitudes and purchase intentions, the response rate for this variable was very low, as the questions were relatively long.

However, Abrar et al. (2018) revealed that subjective norms did not significantly affect consumer attitudes toward the purchase of organic textile products in Pakistan. Conversely, other studies have demonstrated a positive and significant correlation between subjective norms and consumer attitudes, as well as purchase intentions towards organic food products. For instance, Basha et al. (2015), Nuttavuthisit and Thogersen (2017), and Wu and Chen (2014) observed that subjective norms positively influence consumer attitudes and consumer behavior intentions toward green food products. Curvelo et al. (2019) also found that social value concerns, which relate to an individual’s social acceptance by the group they belong to, are strong predictors of purchase intentions. In other words, these aspects are associated with consumers’ social relationships. Peattie (2010) argues that: “Much of our consumption behavior does not simply reflect ourselves and our circumstances, but it also reflects our social relationships and obligations so that we
behave not just as individuals but as members of families, households, communities, and social networks” (p. 211).

This is more effective in a culture characterized by collectivism (Desky et al., 2020). A study by Han (2018) compared young consumers in the US and South Korea concerning the determinants of organic cotton apparel purchases (which can be classified under green agricultural products) and revealed that social pressure affected South Koreans more than Americans. In other words, the opinions of others on the purchase of green products make consumers feel more inclined to purchase the products themselves. As such, exposure to the purchase behavior of others can be an important motivating factor. It was revealed that the attitude of South Koreans was most significantly affected by social influence. Like South Koreans, China is a collectivistic country, and Chinese consumers are likely to be affected by social pressure when making their purchase decisions. Thus, the third hypothesis is constructed as follows:

H3: Social influence is a significant factor in predicting consumer attitude and purchase intention towards green agricultural products.

2.4.4. Health consciousness

Health consciousness refers to a person’s self-awareness about one’s health and the willingness to engage in behaviors promoting wellness and health (Espínosa et al., 2018). Individuals who are health-conscious actively seek information on how to improve their health. This is probably why health consciousness influences perceived knowledge and beliefs in purchase intention toward products (Hoque et al., 2018). Hoque et al. (2018) reveal that health consciousness exerts a positive effect on attitude but not on purchase intention. However, research also shows that health consciousness positively influences both attitude and purchasing intentions (Abrar et al., 2018; Basha et al., 2015). For instance, Abrar et al. (2018) reveal that health consciousness is a crucial factor in changing consumer attitudes and inducing purchasing decisions toward green textile products. Irianto (2015) also notes that health consciousness is a determinant of an individual’s positive attitude to buy green food products.

Research shows that consumers are concerned about their well-being, and this is essential in their consumption behaviors. Ayyub et al. (2021) revealed health consciousness as the best motivator for purchase intention toward green food products. Similarly, Basha et al. (2015) examined consumer attitudes toward organic foods. They aimed to determine the motivating factors of organic food purchases and revealed that health concerns influence purchase intentions and motivate consumers to pay more. Mohamed et al. (2012) also revealed that health awareness is the most important motivating factor for the purchase of green food products.

Nevertheless, some scholars have found that health consciousness may not support the purchase of green agricultural products. For example, Shrestha (2020) undertook a study examining purchase intention and revealed that health concern does not support organic food purchase intention. In other words, while it was agreed that health is a major concern, consumers had given little importance to the purchase of green food products. Nevertheless, most research studies have supported the idea that health consciousness impacts customer attitude and purchase intention. Thus, the fourth hypothesis is constructed as follows:

H4: Health consciousness has a significant positive influence on consumer attitude and purchase intention towards green agricultural products.

2.4.5. The influence of consumer attitude on purchase intention

Attitude is a determinant of intentions. The more positive the consumer attitude toward a specific product is, the higher the consumers’ purchase intention or willingness to pay to acquire that product (Solomon et al., 2013). The TPB identifies three factors that determine behavior intention, including attitudes, subjective norms, and perceived behavioral control (Ajzen, 2020). Consumer attitude is said to mediate the role of the other factors (subjective norms and perceived behavioral control) in TPB (Wu & Chen, 2014).

There is empirical evidence that indicates a positive relationship between consumer attitude and purchasing intentions. For example, Tang et al. (2014) examined the mediating role of Chinese consumer attitude on the influence of their purchase intention and found that consumer attitude exerts a positive effect on purchase intentions. Consumer attitude also fully mediates the impact of other factors like functional value, perceived effectiveness, and environmental concern on the purchase intention of low-involvement vehicles. This was also observed by Abrar et al. (2018), who indicated that consumer attitude mediates the influence of different factors such as personal values, consumer awareness, environmental concern, and health consciousness on purchase intentions. However, Tandon et al. (2020) found no significant association between attitude and purchase behavior. Nevertheless, most research studies have supported the connection between attitude and customer purchase intention. Thus, the fifth hypothesis is constructed as follows:

H5: Consumer attitude positively and significantly influence purchase intention of green agricultural products.

3. MATERIALS AND METHODS

The target population for this study was Chinese customers of agricultural products. To ensure the representativeness of the sample, a probability sampling technique with random sampling was used to select participants for the questionnaire administration. Specifically, a list of potential participants was obtained from a third-party provider who provided a random selection of individuals who had previously expressed interest in agricultural products. The sample size for this study was determined to be 150 participants. An online survey was conducted using the selected participants, who were invited to take the survey via email. The participants were informed about the purpose of the study and assured of their
anonymity and confidentiality. The questionnaire was designed to collect data on the variables of interest in the study, including consumer awareness, personal values, social influence, health consciousness, attitude, and purchase intention toward green agricultural products. By using a probability sampling technique with random sampling, this study aimed to ensure the representativeness of the sample and reduce potential biases. The researcher then searched for these potential participants using the keywords “agricultural products” on Sina Weibo, a popular social media platform in China. From the search results, the researcher randomly selected participants and sent them a message through Sina Weibo’s chat function, explaining the research purpose and inviting them to participate.

For those who showed interest, the researcher sent a consent form and a participant information sheet through Sina Weibo’s chat function. Participants who agreed to participate in the study and signed the consent form were provided with an online questionnaire link through the same platform and requested to complete it within a week. This approach aimed to ensure the representativeness of the sample while reducing potential biases in participant selection. This study employed various statistical techniques, such as frequencies, percentages, counts, and averages, to analyze the collected data. The completed questionnaires’ data were tabulated using the statistical software SPSS, which provided descriptive statistics on demographic information and each variable’s items, such as the percentage of females and the mean score of consumer attitude. Inferential statistics, particularly regression analysis, were used to determine the relationships between the independent and dependent variables, which were tested to validate the hypotheses.

Out of the 150 questionnaires distributed, 133 observations were received, resulting in an effective response rate of 88.7%. Descriptive and inferential statistics were used to analyze the data. Pearson correlation and regression analysis were used as inferential statistical methods to make inferences.

4. FINDINGS

4.1. Participants profile

Based on the descriptive statistics presented in Table 1, 52.6% of the participants (70 out of 133) were female, while 47.4% (63 out of 133) were male. Regarding age, the largest group of participants was in the 46–55 age range, accounting for 30.8% of the sample, followed by 26.3% in the 36–45 age range. Participants aged 26–35, 18–25, and 56 and above accounted for 18.8%, 14.3%, and 9.8%, respectively.

In terms of monthly income, a significant number of participants (31.6%) earned between 3,001–4,500 Chinese yuan (CNY), followed by 23.3% earning CNY6,001 and higher, and 21.1% earning CNY4,501–6,000. Participants earning CNY1,501–3,000 accounted for 18.8%, while those earning less than CNY1,500 were 5.3%. Regarding education level, 41.4% of participants had an undergraduate degree, while 32.3% had completed junior college. Postgraduate and higher education levels accounted for 15%, while high school and lower levels accounted for 11.3%.

Table 1. Participant profile

<table>
<thead>
<tr>
<th>Variables</th>
<th>Characteristic</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>70</td>
<td>52.6</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>63</td>
<td>47.4</td>
</tr>
<tr>
<td>Age</td>
<td>18–25 years old</td>
<td>19</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>20–35 years old</td>
<td>25</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>30–43 years old</td>
<td>35</td>
<td>26.3</td>
</tr>
<tr>
<td></td>
<td>40–55 years old</td>
<td>41</td>
<td>30.8</td>
</tr>
<tr>
<td></td>
<td>56 and above</td>
<td>13</td>
<td>9.8</td>
</tr>
<tr>
<td>Income</td>
<td>1,500 yuan (CNY) and below</td>
<td>7</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>1,501–3,000 yuan (CNY)</td>
<td>15</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>3,001–4,500 yuan (CNY)</td>
<td>15</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>4,501–6,000 yuan (CNY)</td>
<td>28</td>
<td>21.1</td>
</tr>
<tr>
<td></td>
<td>6,001 yuan (CNY) and higher</td>
<td>31</td>
<td>23.3</td>
</tr>
<tr>
<td>Education</td>
<td>High school and lower</td>
<td>15</td>
<td>11.3</td>
</tr>
<tr>
<td></td>
<td>Junior college</td>
<td>43</td>
<td>32.3</td>
</tr>
<tr>
<td></td>
<td>Undergraduate</td>
<td>55</td>
<td>41.4</td>
</tr>
<tr>
<td></td>
<td>Postgraduate and higher</td>
<td>20</td>
<td>15</td>
</tr>
</tbody>
</table>

4.2. Chinese consumers’ attitude and purchase intention

This study evaluated Chinese consumers’ attitudes and purchase intentions toward green agricultural products. Four items were used to measure consumer attitude, and all of them had an average score ranging from 3.57 to 3.68. These items also had standard deviations ranging from 0.8 to 1.03 (see Table 2). This indicates that the values of consumer attitude among the participants were close to the mean, and most participants chose a rating of three or four on the Likert scale. This suggests that they either agreed or were unsure about statements such as “purchasing green agricultural products is a good idea”. Overall, the Chinese consumers’ attitude toward green agricultural products is positive, as it approaches a scale of four, but it is still somewhat weak.
Table 2. Consumer attitude towards green agricultural products

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I think that purchasing green agricultural products is a good idea.</td>
<td>3.619</td>
<td>0.873</td>
</tr>
<tr>
<td>2</td>
<td>I feel that buying green agricultural products is important.</td>
<td>3.571</td>
<td>0.809</td>
</tr>
<tr>
<td>3</td>
<td>I think that purchasing green agricultural products is beneficial.</td>
<td>3.677</td>
<td>1.027</td>
</tr>
<tr>
<td>4</td>
<td>It is my firm belief that my purchasing behavior of green agricultural products can alleviate environmental problem.</td>
<td>3.624</td>
<td>0.884</td>
</tr>
</tbody>
</table>

Purchase intention was also measured using four items, as shown in Table 3. The analysis results indicate that the purchase intention towards green agricultural products in China is almost neutral. The items scored a mean between 3.07 and 3.32, with standard deviations between 0.81 and 0.90, indicating that the responses were close to each other. In other words, they were between three and four ("not sure" and "agree"), but more participants were unsure. Overall, the participants did not show a strong intention to purchase green agricultural products.

Table 3. Purchase intention towards green agricultural products

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I would gladly buy more green agricultural products if I could get them regardless of others' opinions or other limits.</td>
<td>3.323</td>
<td>0.812</td>
</tr>
<tr>
<td>2</td>
<td>My personal goal is to consume as much green agricultural products as possible.</td>
<td>3.068</td>
<td>0.809</td>
</tr>
<tr>
<td>3</td>
<td>I will make every effort to purchase green agricultural products.</td>
<td>3.173</td>
<td>0.906</td>
</tr>
<tr>
<td>4</td>
<td>I have a firm intention to buy green agricultural products in the future.</td>
<td>3.226</td>
<td>0.893</td>
</tr>
</tbody>
</table>

4.3. Level of awareness, consumption values, social influence, and health consciousness

This study aimed to investigate the factors influencing Chinese consumers’ attitudes and purchase intentions toward green agricultural products (see Table 4). The variables examined were awareness, consumption values, social influence, and health consciousness. Five items were used to measure awareness, and the mean scores ranged from 3.496 to 3.64 with standard deviations between 0.865 and 0.974. The results indicated that the participants had a weak level of awareness of green agricultural products. Consumption values were also weak, but the participants showed stronger values than awareness. Three items were used to measure consumption values, and the mean scores ranged from 3.60 to 3.71 with standard deviations between 0.959 and 0.998. This suggested that the participants had weak but positive values toward consuming green agricultural products.

Social influence was also measured using four items, and the mean scores ranged from 3.346 to 3.73 with standard deviations between 0.826 and 1.05. The results indicated a weak social influence on participants. Health consciousness was the strongest factor, with a mean score ranging from 3.677 to 3.81 and standard deviations between 0.88 and 0.93. The results indicated that consumers were health conscious but not strongly.

In summary, this study found that health consciousness was the strongest factor influencing Chinese consumers’ attitudes and purchase intentions towards green agricultural products, followed by consumption values, social influence, and awareness. The results suggested that there is room for improvement in increasing consumer awareness and social influence to promote the purchase of green agricultural products in China.

Table 4. Descriptive statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. of items</th>
<th>Mean score range</th>
<th>Std. Dev. range</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>5</td>
<td>3.496 to 3.64</td>
<td>0.865 to 0.974</td>
<td>Participants had a weak level of awareness of green agricultural products.</td>
</tr>
<tr>
<td>Consumption value</td>
<td>3</td>
<td>3.60 to 3.71</td>
<td>0.959 to 0.998</td>
<td>Weak but positive values toward consuming green agricultural products.</td>
</tr>
<tr>
<td>Social influence</td>
<td>4</td>
<td>3.346 to 3.73</td>
<td>0.826 to 1.05</td>
<td>Indicated a weak social influence on participants.</td>
</tr>
<tr>
<td>Health consciousness</td>
<td>3</td>
<td>3.677 to 3.81</td>
<td>0.88 to 0.93</td>
<td>Consumers were health conscious but not strongly.</td>
</tr>
</tbody>
</table>

4.4. Testing of hypotheses

The study examined the relationships between these factors and consumer attitude as well as purchase intention. Correlation and regression analyses were used to test these relationships and the study’s hypotheses. The first correlation analysis focused on the correlation between the various factors examined and consumer attitude (see Table 5).

Table 5. Correlations between awareness, consumption values, social influence, health awareness, and consumer attitude

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson correlation</th>
<th>Awareness</th>
<th>Consumption value</th>
<th>Social influence</th>
<th>Health consciousness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer attitude</td>
<td></td>
<td>0.693**</td>
<td>0.627**</td>
<td>0.771**</td>
<td>0.640**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>133</td>
<td>133</td>
<td>133</td>
<td>133</td>
</tr>
</tbody>
</table>

Note: ** significant p-value < 0.05.
Table 5 presents the correlations between the independent variables and the dependent variable (consumer attitude). The results indicate strong positive correlations between awareness, consumption values, social influence, health consciousness, and consumer attitude. All the correlations were found to be significant ($p = 0.000$). Social influence had the strongest correlation with consumer attitude ($r = 0.771$), followed by awareness ($r = 0.693$), health consciousness ($r = 0.640$), and consumption values ($r = 0.627$).

### Table 6. Regression analysis to show relationship between awareness, consumption values, social influence, health awareness, and consumer attitude

<table>
<thead>
<tr>
<th>Predictors</th>
<th>R-square</th>
<th>F-test</th>
<th>p-value</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>0.480</td>
<td>120.940</td>
<td>0.000</td>
<td>0.635</td>
</tr>
<tr>
<td>Consumption values</td>
<td>0.393</td>
<td>84.982</td>
<td>0.000</td>
<td>0.476</td>
</tr>
<tr>
<td>Social influence</td>
<td>0.594</td>
<td>191.727</td>
<td>0.000</td>
<td>0.652</td>
</tr>
<tr>
<td>Health consciousness</td>
<td>0.410</td>
<td>91.016</td>
<td>0.000</td>
<td>0.571</td>
</tr>
</tbody>
</table>

Dependent variable: Consumer attitude

The regression analysis also examined awareness, consumption values, social influence, and health consciousness as independent variables (see Table 6). The results were similar to those of the correlation analysis, with social influence having the strongest impact on consumer attitude, followed by awareness, health consciousness, and consumption values. The beta values indicate that a unit change in social influence causes an increase in consumer attitude by 0.652 units, while an increase in a unit of health consciousness increases consumer attitude by 0.571 units. A unit of awareness increases consumer attitude by 0.635 units, while a unit of consumption values increases consumer attitude by 0.476 units. All these relationships are significant ($p = 0.000$). Overall, the results indicate that awareness, consumption values, social influence, and health consciousness significantly and positively affect consumer attitudes.

### Table 7. Correlations between social influence, health consciousness, consumption values, awareness, and purchase intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation</th>
<th>Awareness</th>
<th>Consumption value</th>
<th>Social influence</th>
<th>Health consciousness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase intention</td>
<td>Pearson cor.</td>
<td><strong>0.395</strong></td>
<td><strong>0.425</strong></td>
<td><strong>0.547</strong></td>
<td><strong>0.443</strong></td>
</tr>
<tr>
<td></td>
<td>Sig.(2-tailed)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>133</td>
<td>133</td>
<td>133</td>
<td>133</td>
</tr>
</tbody>
</table>

Note: ** significant p-value < 0.05.

Regression analysis also indicated significant relationships between awareness, consumption values, social influence, health consciousness, and purchase intention ($p = 0.000$) as shown in Table 8. Social influence still had the highest effect with a unit increase leading to an increase of purchase intention by 0.464 units followed by health consciousness. An increase in health consciousness by a unit increases purchase intention by 0.396 units while an increase in awareness by a unit increases purchase intention by 0.363 units and lastly, consumption values increase by a unit increases purchase intention by 0.324 units. This order was also different from the correlation results. This is because correlation only shows the direction of the relationship while regression shows how the variables account for changes. In other words, regression shows the cause-and-effect relationship.

### Table 8. Regression analysis to show the relationship between social influence, health consciousness, consumption values, awareness, and purchase intention

<table>
<thead>
<tr>
<th>Predictors</th>
<th>R-square</th>
<th>F-test</th>
<th>p-value</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>0.686</td>
<td>25.276</td>
<td>0.000</td>
<td>0.363</td>
</tr>
<tr>
<td>Consumption values</td>
<td></td>
<td>28.949</td>
<td>0.000</td>
<td>0.324</td>
</tr>
<tr>
<td>Social influence</td>
<td></td>
<td>35.894</td>
<td>0.000</td>
<td>0.464</td>
</tr>
<tr>
<td>Health consciousness</td>
<td></td>
<td>31.994</td>
<td>0.000</td>
<td>0.396</td>
</tr>
</tbody>
</table>

Dependent variable: Purchase intention

When these results are combined, the factors examined are all found to influence consumer attitude as well as purchase intentions. Hence, hypotheses H1 to H4 are confirmed. H1 state that consumer awareness positively influences consumer attitude as well as purchase intention toward green agricultural products. H2 noted that consumption values significantly influence consumer attitude as well as purchase intention toward green agricultural products while H3 stated that social influence is...
a significant factor in predicting consumer attitude as well as purchase intention toward green agricultural products. H4 stated that health consciousness exerts a significant positive impact on consumer attitude as well as purchase intention toward green agricultural products. H5 was also confirmed based on the results in Table 9.

Table 9. Correlation and regression analyses show relationship between consumer attitude and purchase intention

<table>
<thead>
<tr>
<th>Panel A</th>
<th>Correlation</th>
<th>Panel B</th>
<th>Regression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Correlation</td>
<td>Consumer attitude</td>
<td>Predictors</td>
</tr>
<tr>
<td>Purchase intention</td>
<td>Pearson correlation: 0.493**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed): 0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N: 133</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9 shows that consumer attitude exerts a significant and moderate correlation with purchase intention ($r = 0.493$ at $p = 0.000$). The Table also shows that the regression model is significant and that the regression relation is confirmed. The F-value is 42.094 with $p = 0.000$. A change in consumer attitude by a unit causes an increase in purchase intention by 0.495 units. Therefore, $H5$ is confirmed. This hypothesis stated that consumer attitude positively and significantly influences the purchase intention of green agricultural products.

5. DISCUSSION

The study aimed to find out the core factors impacting the consumer attitude as well as purchase intention toward green agricultural products in China. To achieve this, the study examined the consumer attitudes as well as purchase intention toward these products and then tested hypotheses concerning the relationships awareness, consumption values, social influence, and health consciousness have with consumer attitude and purchase intention. The findings revealed that Chinese consumers have a positive, though weak, attitude toward green agricultural products. This study as well revealed that the participants (Chinese consumers) are not sure of the intention to buy green agricultural products. Awareness, consumption values, social influence, and health consciousness were found to have significant positive relationships with consumer attitudes as well as purchase intention toward green agricultural products. Consumer attitude was also found to be of a significant positive association with purchase intentions.

Consumer attitudes were positive while purchase intention was neutral. These results are consistent with previous studies that show that consumer attitudes toward green products have increased in China and globally (e.g., Fang & Levy, 2015; Tang et al., 2014; Zhao et al., 2014). However, the study indicated that these attitudes are weak rather than strong as the previous studies indicate. This could be explained by the factors affecting consumer attitude in the next section. Meanwhile, these findings are inconsistent with those that indicate negative attitudes toward green products (e.g., Gan et al., 2014).

The findings on the purchase intention of Chinese consumers towards green agricultural products are inconsistent with previous studies revealing that Chinese consumers are willing to purchase green products (e.g., McCarthy, 2015; Yang et al., 2019) even at a higher price (Xu et al., 2018; Yu et al., 2014). According to the current study, these consumers are not sure if they want to purchase green agricultural products or not.

Simply put, social influence has a strong and significant positive impact on both consumer attitude and purchase intention toward green agricultural products. The results are consistent with the previous results which indicate that social influence significantly influences consumer attitude and purchase intention toward green products (e.g., Abrar et al., 2018; Basha et al., 2015; Curvelo et al., 2019; Li & Jaharuddin, 2020; Nuttavuthisit & Thogersen, 2017; Wu & Chen, 2014). This factor was found to be the strongest in influencing both consumer attitude as well as purchase intention and this could be explained by the collectivist culture among the Chinese. Han (2018) had indicated that social influence more strongly influences consumers toward the purchase of green products in collectivist culture than in an individualist culture. So, just as Han (2018) found that the attitude of South Koreans toward green products was most significantly affected by social influence. In specific, the current study has revealed that social influence is the most significant factor shaping Chinese consumer attitude as well as purchase intention. However, social influence toward green agricultural products was not very prevalent among Chinese consumers. Marketers in the Chinese market should take into serious consideration this factor.

Consumer awareness was also found to be a significant factor influencing both consumer attitude as well as purchase intention toward green agricultural products. This factor strongly influences consumer attitude as well as purchase intention confirming Fritschi’s (2018) argument that increased consumer awareness about the environment friendliness of green products lead to positive evaluations about these products and increase purchase intention. This is also consistent with other studies that revealed a positive impact on the attitude and purchase intention of consumer awareness toward green products (Abrar et al., 2018; Basha et al., 2015). However, this was inconsistent with other studies which had found that consumer awareness towards green products does not necessarily influence consumer attitude and purchase intention as aware consumers may not show interest in these products (Pedersen & Neergaard, 2006; Shrestha, 2020) or too much awareness may create confusion (Moisander, 2007). In other words,
the current study notes that increasing consumer awareness of green products is good to create positive evaluations of these products and possibly encourage their purchase.

Another factor influencing consumer attitudes as well as purchase intention towards green agricultural products is health consciousness. It demonstrated a strong influence on consumer attitude but not the same to purchase intentions. These findings echo with those of (Abrar et al., 2018; Basha et al., 2015) who found that the health consciousness of consumers changes their attitudes and induces purchase intentions for green products. This is not, however, similar to Hoque et al. (2018) who found that health consciousness only influences consumer attitude and not purchase intention. Shrestha (2020) had also not found any relation between health consciousness and the purchase intention toward green products. However, the findings that health consciousness is the most important factor affecting purchase intentions (after social influence) support many previous findings. For example, Ayyub et al. (2018) and Mohamed et al. (2012) noted that health consciousness is the most important motivating factor for the purchase of green food products. This confirms that health consciousness is a very important factor.

Consumption values also affect consumer attitudes and purchase intention. These results confirm what Peattie (2010) noted about consumer norms and values influencing green consumption and those of Li et al. (2012) that personal values shape the attitudes and behaviors of customers. Abrar et al. (2018) and Ayyub et al. (2021) also noted that personal values significantly influence consumer attitudes and purchase intention.

This study also revealed that consumer attitude is of a significant positive relation with the purchase intention towards green agricultural products. This is consistent with the theory stating that a more positive consumer attitude toward products results in higher purchase intentions and willingness to pay to acquire the products (Solomon et al., 2013). This is also in agreement with previous studies which have found a positive effect of consumer attitude on purchase intention towards green products (Abrar et al., 2018; Tang et al., 2014). However, the findings are inconsistent with Tandon et al. (2020) who found no significant relation between consumer attitude and purchase intentions. Overall, the study confirms that consumer attitude is crucial in increasing purchase intention. As such, consumers’ ‘not sure’ response concerning purchase intention can be explained by their weak positive attitude towards green agricultural products. Increasing consumer attitudes could increase purchase intentions and probably their real purchase and consumption of green agricultural products.

The increase in consumer attitude during the pandemic has so far increased because the level of awareness of each individual about health has increased quite drastically so the pandemic period is a special moment that can be used for businesses and the government to increase people’s purchase intention on green agricultural products. During the pandemic, there has been a shift in consumer behavior which has led to several reasons for increasing consumption of green agricultural products.

The current study was relevant because its findings have both practical and academic implications. This academic research enriches knowledge about consumer behavior towards green agricultural products and makes an important contribution to research gaps, especially with regard to consumer attitudes and purchase intentions on green agricultural products. The study findings indicate that awareness, social influence, consumption values, and health consciousness influence consumer attitude and purchase intention and that social influence is the strongest. This adds to the literature that identify these factors and those that do not. As such, the findings not only support similar studies but also introduce possible new insights such as how these factors affect consumer attitude as well as purchase intention in the Chinese market.

6. CONCLUSION

This study aimed to determine Chinese consumers’ attitudes and purchase intentions toward green agricultural products. The results indicated that although Chinese consumers view green agricultural products positively, their attitude is weak. Their purchase intention is neutral, signifying that they neither demonstrate intentions to buy nor avoid purchasing green agricultural products. It could be concluded that the weakly positive consumer attitude towards these products has led Chinese consumers to have a neutral purchase intention. The study also revealed that consumer awareness, social influence, health consciousness, and consumption values affect consumer attitudes and purchase intention. Social influence was found to be the most important factor influencing consumer attitude and purchase intention, leading to the conclusion that social factors are the most significant drivers of green product consumption among Chinese consumers. This was followed by awareness, health consciousness, and consumption values. Interestingly, consumers displayed stronger health consciousness and consumption values compared to social influence and awareness. Consequently, the study concludes that awareness and social influence are the most critical factors affecting consumer attitudes among Chinese consumers.

The study also identified a positive, significant association between consumer attitude and purchase intention towards green agricultural products. This suggests that consumer attitude influences purchase intention and that addressing the identified factors and consumer attitudes is crucial. The study successfully answered the research questions and achieved its objectives.

The limitations of this study include focusing only on consumers in China and using a relatively small sample size. It is hoped that future studies will conduct research using a larger sample size and compare findings between provinces in China, as China is a vast country with many provinces that possess different economic strengths and consumer preferences.
REFERENCES


