

CHINESE CONSUMERS' PURCHASE INTENTION FOR ORGANIC MEAT: AN EXTENSION OF THE THEORY OF PLANNED BEHAVIOUR

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ABSTRACT

There are various factors, such as the use of growth hormones, chemical additives in animal feed, animal welfare, health issues, and environmental concerns, which have led to a steady increase in global consumption of organic meat. The literature on organic consumer behaviour recently focuses on emerging Asian markets, especially China's most populous markets. This study aims to investigate the factors that affect Chinese consumers' intention to purchase organic meat. Survey questionnaire method has been employed to collect the required data. The data were collected from 305 consumers from three different organic stores in Wuhan, China. The partial least structural equation modelling (PLS-SEM) has been employed to analyse the data. The findings revealed that the consumers' attitude, health consciousness, food safety concern, and green self-identity are key factors in developing Chinese consumers' intention to purchase organic meat. The findings further revealed that subjective norms, perceived behavioural control, meat characteristics, and organic knowledge about organic meat have a non-significant relationship in developing the consumers' intention to purchase organic meat. It has been observed that the concept of organic meat has been less studied and less investigated. This study's findings could help

farm owners, market managers, advertising managers, food control authority officials, and all those related to meat business, in planning and executing future strategies to attract the maximum number of organic meat consumers in China.

Keywords: theory of planned behaviour, food safety, health consciousness, meat characteristics, green self-identity

INTRODUCTION

Organic food has been in high demand in consumer market as people have gradually realised the benefits of using organic food instead of conventional food (Liang, 2015; Zagata, 2012). Organic foods are free of toxins, chemical fertilisers or herbicides, hormones, and antibiotics (Olson, 2017). The world has recently witnessed exponential organic food sales growth estimated at €95 billion in 2018 (Helga Willer et al., 2020). Asia is considered ranked first in organic products production because 40% of organic producers in the world belong to the Asian region and ranks third in the growing global market for organic products (Helga Willer et al., 2020). In China, organic food sales increased from ¥313.45 billion in 2011 to ¥455.7 billion in 2018 (Statista, 2018).

The growth of the organic market in China is at the primary stage. China is currently the fourth largest certified organic farming area globally, though the share (0.37%) of agricultural land for organic farming is still extremely minor (Helga Willer, 2016). Despite the dramatic growth in Chinese organic farming, it is mostly an export-oriented industry (Taylor, 2008; Tingyou & Yi, 2011). In China, organic food consumption has increased in popularity and is predictable to grow to 5% of the market by 2020 (Loebnitz & Aschemann-Witzel, 2016; Sirieix et al., 2011). The consumption of meat in China rose steadily from 37.1 g per day in 1992 to 64.3 g per day in 2012 (Wang et al., 2018). Consumers are concerned about food safety because organic meat contains fewer residues without synthetic pesticides, growth hormones, antibiotics, and chemical ingredients (Roitner-Schobesberger et al., 2008). The number of food scandals in China has increased in recent years. (e.g., contaminated baby food and pork made with clenbuterol) that have attracted enormous media and consumer attention (Wang et al., 2018), it makes Chinese consumers very sensitive towards food products (especially meat). In the past, numerous studies in the literature explain the consumption patterns of organic meat, most of which focused on developed countries, probably due to higher demand exists in the developed world (Angood et al., 2008; Haugaard et al., 2014; Siegrist & Hartmann, 2019; Verhoef, 2005; Zanoli et al., 2013). However, the growing popularity of the concept of organic food in emerging

countries encourage researchers to investigate the consumer behaviour towards organic food (especially organic meat) (Nguyen et al., 2019; Wong & Mat Said, 2017).

Despite the popularity of organic meat, China's organic meat market is still a niche market and has not yet matured. It requires encouragement and support to raise consumer awareness to improve organic meat acceptance and stimulate organic meat purchases in the country. It has been observed that Chinese consumers' intention to purchase organic meat has not been investigated in previous studies. So, studying the consumers' behaviour in this regard would provide valuable insight into their perception development about organic meat. Organic farming has emerged as a lucrative business and switching to it would prove beneficial both for the environment and consumers' health. Based on the above discussion, the study was carried out in Wuhan's Chinese city to investigate the consumers' general response and intention to purchase organic meat. The study involved the owners of the organic food business in Wuhan, China. It was carried out based on the theory of planned behaviour (TPB) with addition to five more constructs as meat characteristics, food security concerns, health consciousness, green self-identity, and the knowledge about organic products in general and organic meat in particular.

The next section presents the theoretical background and hypothesis of the research. It further explains the research methodology and subsequent findings. By presenting the discussion and the conclusion, the end part of the section involves limitations and future research direction.

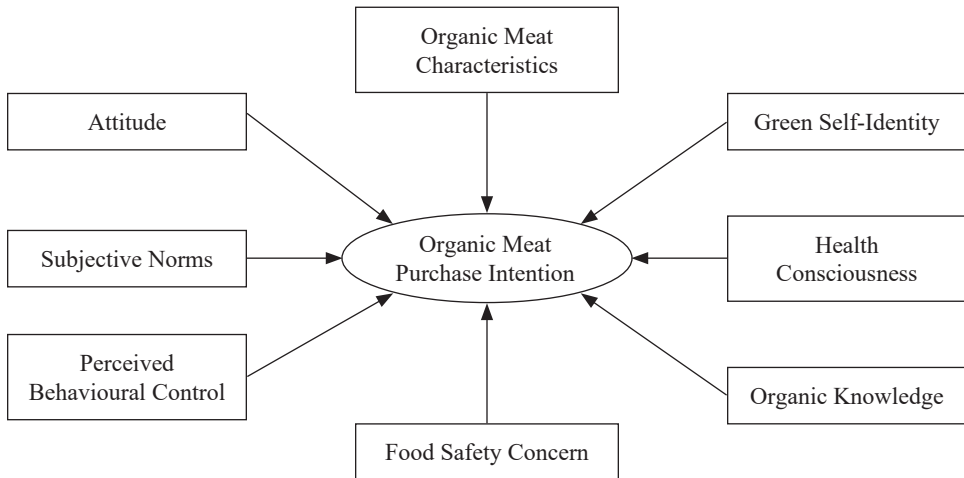


Figure 1. Proposed model

LITERATURE REVIEW

Theory of Planned Behaviour

The present study followed the TPB model proposed by Ajzen (1991) as a theoretical framework explaining the Chinese consumers' intention to purchase organic meat. The theory states that certain behaviours depend on one's intention to act. It reflects motivational and cognitive planning for behavioural interventions and is determined by three important factors: attitudes, subjective norms, and perceived behaviour control (PBC). Many researchers consider attitude as an essential indicator in organic food purchasing (Asif et al., 2018; Hoppe et al., 2013; Testa et al., 2018). The subjective norm is considered a perceived social pressure to engage in a behaviour (Sreen et al., 2018). Recent studies mentioned that social norms are played an essential role in pro-environmental consumer behaviour (Biswas & Roy, 2015; Yadav & Pathak, 2016). The subjective norm also significantly influences organic food's purchase intention (Al-Swidi et al., 2014; Haroon Hafeez, 2014), while PBC is associated with the perception of individuals ability to behave (Ajzen, 1991; Martin Fishbein, 2010). The main barrier that prevents environmentally conscious consumers from buying organic products is higher prices and not as much of the availability of organic products (Barbarossa & Pastore, 2015). TPB constructs have proven to be sound predictors for the selection of organic food (Al-Swidi et al., 2014; Carfora et al., 2016, 2017; Lobb et al., 2007; Wang et al., 2019; Zagata, 2012). Consequent from the TPB theory, this study proposed the following hypotheses:

- H1: Attitude has a direct and positive influence on Chinese consumers' intention to purchase organic meat.
- H2: Subjective norm has a direct and positive influence on Chinese consumers' intention to purchase organic meat.
- H3: PBC has a direct and positive influence on Chinese consumers' intention to purchase organic meat.

Food Safety and Purchase Intention

Food safety is the safe treatment of food from its cultivation, breeding, packaging, distribution, and preparation to avoid food-borne diseases (Cerjak et al., 2010). The organic production method is free of unwanted chemicals (Rana & Paul, 2017). Numerous studies have also analysed consumer needs for meat labeling systems that guarantee quality and safety (Bernués et al., 2003; Yeung & Yee, 2003). Recent evidence supports the view that regulation and market-based

food safety measures are important in the meat and poultry industry (Ollinger & Moore, 2008). Food safety concerns are the main significant factor in explaining consumers' desire to purchase organic food (Wong & Mat said, 2017). Van Loo et al. (2010) found that regular organic chicken consumers firmly believe that such a product contains less residue and chemicals. Based on the above discussion, the following hypothesis has been developed:

- H4: Food safety concern has a positive relation with Chinese consumers' intention to purchase organic meat.

Meat Characteristics and Purchase Intention

Due to a variety of factors, food choices and demands will be refined over time. Numerous studies have shown that food's sensory attraction is an essential factor in choosing food (Angood et al., 2008). Wang et al. (2015) found that there are differences between the types of meat that consumers demand in China, the United States, and Europe. Consumers judge the quality of meat based on taste, delicacy, sweetness, freshness, thinness, and intense red colour (Krystallis et al., 2007). In general, a food product, such as organic meat, is a combination of properties described by sensory properties, such as the taste, smell, appearance, and texture of the meat. According to Sasaki et al. (2011), meat characteristics are one of the main predictors of the purchase of organic meat among Japanese consumers. Based on the above discussion, the following hypothesis has been developed:

- H5: Meat characteristic has a positive relationship with Chinese consumers' intention to purchase organic meat.

Health Consciousness and Purchase Intention

Organic food consumption is taken as an investment in personal health (Kriwy & Mecking, 2011). Previous studies have shown that organic foods are healthier than traditional foods (Kriwy & Mecking, 2011; Lea & Worsley, 2005; Magnusson et al., 2003). Previous studies show that health is the decisive factor in consumers' buying intention (Alphonse & Alfnes, 2012; de Magistris & Gracia, 2008; Olivas & Bernabeu, 2012; Schifferstein & Oude Ophuis, 1998; Zahaf et al., 2009). This study determines the relation between health consciousness and organic meat purchase intention in the Chinese context, hence the authors test this relationship by hypothesising that:

- H6: Health consciousness has a positive relationship with Chinese consumers' purchase intention of organic meat.

Green Self-Identity and Purchase Intention

Green identity is a definite antecedent to consumers' intention to purchase green products (Whitmarsh & O'Neill, 2010). According to the self-congruity theory (Sirgy 1986), people who consider themselves green consumers may consider buying green products because they meet their own needs and get personal satisfaction. The idea of self-identity as green consumers was also found in the case of organic food consumption. Consumer's identification as a green consumer positively influences organic food's purchase intention (Johe & Bhullar, 2016). Besides, recent studies have shown that the Italian consumer's identity as a green consumer positively affects the intention to buy organic milk (Carfora et al., 2019). Based on the following, this study determines the relation between Chinese consumer's self-identity as a green consumer and their organic meat purchase intention. The authors test this relationship by hypothesising that:

- H7: Chinese consumer's self-identity as a green consumer positively affects their purchase intention of organic meat.

Organic Knowledge and Purchase Intention

Studies have shown that consumers understand the term "organic" (Hutchins & Greenhalgh, 1995; 1997). They consider organic to be free of chemicals (Hutchins & Greenhalgh, 1997). Knowledge about organic food is related to what consumers know about organic food and its ability to assess organic food's quality and unique characteristics (Aertsens, 2011). Moreover, knowledge is an essential factor in purchasing organic foods (Nguyen et al., 2019; Smith & Paladino, 2010). As per Kapuge (2016), knowledge has a significant positive impact on organic food purchase intention. It means that more knowledge leads to a more significant impact on purchase intention. This study empirically investigates the role of knowledge in the overall purchase intention of organic meat. Another hypothesis can be considered:

- H8: Organic meat knowledge has a positive relationship with Chinese consumers' intention to purchase organic meat.

RESEARCH METHODOLOGY

Data Collection, Measurements, and Sample

To analyse this empirical study, we used a designed questionnaire to collect the data. The questionnaires first developed in English, then translated into Chinese, and then conducted a back-translation using two independent translators. Questionnaire was based on two parts. The first part lists the respondents' age group demographics, income, sex, and education. The second part consists of measuring attitude, subjective norms, perceived control behaviour, food safety concerns, organic meat characteristics, health consciousness, green self-identity, and organic knowledge.

In addition, surveys were distributed at three organic stores in Wuhan, and the respondents have been guaranteed that the information they provide will only be used for academic purposes and that the researchers would maintain confidentiality. Convenience sampling technique was used to collect 330 samples. Out of 330 samples, only 305 with a response rate of 87% were set up for current research.

Measurements and Survey Instruments

The items were borrowed from the previously conducted studies that were considered relevant for construct measurement and were designed in English. Attitudes towards organic meat were measured with three items adapted from McCarty and Shrum (2001). Subjective norm was assessed with three items borrowed from Armitage and Conner (1999). PBC was measured through three items adapted from Armitage and Conner (1999). For food safety concerns, three items were taken by Michaelidou and Hassan (2008). For meat characteristics, three items were adopted Sasaki et al (2011). For health consciousness, two items adopted from Nguyen et al. (2019), organic meat knowledge measured through three items adapted from Aertsens (2009), purchase intention was measured using four items adapted from Shaharudin et al. (2010).

The respondents' demographic characteristics consist of 140 (46%) male and 165 (54%) females were surveyed. All the respondents of this research were adults, 77 (25%) belong to the age group of 18–23 years old, 173 (57%) found to be young people in the age group 24–29 years old and 55 (18%) in that order followed by age group of 30–35 years old. Education-wise, 144 (47%) respondents had a bachelor's degree, 100 (33%) had master-level education, remaining 61 (20%) had PhD level education. Household income of respondents,

43 (14%) respondents earn more than RMB150,000 a year, 85 (28%) respondents belong to the income group of less than or equal to RMB100,000 per annum, 177 (58%) respondents belong to the income group of less than or equal to RMB80,000 per annum.

Table 1
Respondents' profile

Variables	Category	Frequency	Percentage
Gender	Male	140	46
	Female	165	54
Age group	18–23 years old	77	25
	24–29 years old	173	57
	30–35 years old	55	18
Education	Bachelors	144	47
	Master	100	33
	PhD	61	20
Household income (yearly)	Above RMB150,000	43	14
	Less than or equal to RMB100,000	85	28
	Less than or equal to RMB80,000	177	58

DATA ANALYSIS AND RESULTS

This study used structural and analytical modeling methods to create a model for organic meat purchase intention. The following methods were used in this study: confirmatory factor analysis (CFA) and structural equation modeling (SEM).

Convergent validity was assessed under three primary conditions: (1) The standardised factor loads' values exceeded 0.5, (2) composite reliability (CR) was higher than extract mean deviation (average variance extracted, AVE), and (3) AVE exceeded 0.5, according to the standard suggested by Hair et al. (2013). It was observed that 5 of the 32 items were cancelled because their factor loading was below 0.55. As a result, only 27 items remain in the full model, as they have factor loadings over 0.55 (see Table 2). Further, all CR and AVE values range between 0.815 to 0.864 and 0.601 to 0.690, respectively according to the standard values of 0.7 and 0.5 (Hair et al., 2013). As shown in Table 2, the relevant data showed strong convergent validity. In addition, to test the convergent validity of the measurement model, a confirmation factor analysis was performed, which led to a satisfactory model ($\chi^2 = 230.709$, fit index [NFI] = 0.903 and comparative fit index [CFI] = 0.916). Convergent validity was thus achieved.

Table 2
Factors loading, composite reliability, average variance extracted

Variables	Factor loadings	CR	AVE	
Attitude	AT1	0.701	0.824	0.622
	AT2	0.842		
	AT3	0.795		
Subjective norms	SN1	0.868	0.851	0.656
	SN2	0.768		
	SN3	0.790		
Perceived behaviour control	PBC1	0.832	0.843	0.641
	PCB2	0.758		
	PCB3	0.810		
Food security concern	FS1	0.850	0.834	0.627
	FS2	0.806		
	FS3	0.714		
Meat characteristics	MC1	0.848	0.817	0.601
	MC2	0.782		
	MC3	0.684		
Health consciousness	HC1	0.911	0.815	0.690
	HC2	0.742		
Green self-identity	GS1	0.810	0.825	0.614
	GS2	0.672		
	GS3	0.857		
Organic knowledge	OK1	0.697	0.846	0.650
	OK2	0.856		
	OK3	0.853		
Purchase intention	PI1	0.771	0.864	0.613
	PI2	0.818		
	PI3	0.780		
	PI4	0.763		

For discriminant validity, AVE's square root values should exceed its correlation coefficients with other constructs (Fornell & Larcker, 1981). According to this model, the researcher first compares the square root of the AVE of each construct with the shared variance between the constructs, and if the square root of the AVE is better than the shared variance between the constructs, the investigator can declare the discriminant validity between the constructs. Table 3 shows

that the square root of the AVE of each measure was higher than its correlation coefficients with other constructs, indicating that the validity of the discriminant is guaranteed.

Table 3
Co-relation matrix

	AT	FS	GS	HC	MC	MK	PBC	PI	SN
AT	0.782								
FS	0.422	0.792							
GS	0.403	0.345	0.784						
HC	0.397	0.307	0.407	0.831					
MC	0.237	0.436	0.256	0.213	0.774				
MK	0.313	0.464	0.319	0.363	0.309	0.805			
PBC	0.296	0.449	0.321	0.407	0.265	0.206	0.801		
PI	0.438	0.421	0.412	0.441	0.261	0.365	0.319	0.783	
SN	0.316	0.309	0.400	0.291	0.220	0.281	0.248	0.278	0.810

Note: AT = attitude, FS = food safety, GS = green self-identity, HC = health consciousness, MC = meat characteristics, MK = meat knowledge, OK = organic knowledge, PBC = perceived behaviour control, PI = purchase intention, SN = subjective norms

The hypothesis was tested using the structural equation model and the results demonstrated in Table 4. Attitude ($\beta = 0.181, t = 3.459, p = 0.001$), food safety concern ($\beta = 0.155, t = 3.105, p = 0.002$), green self-identity ($\beta = 0.184, t = 2.596, p = 0.009$) and health consciousness ($\beta = 0.203, t = 3.749, p = 0.001$) have significant positive impact on intention to purchase organic meat. Among these relationships, an attitude has the highest impact on intention to purchase organic meat. Hence, hypothesis of the study H1, H4, H6, and H7 are supported. However, social norms ($\beta = 0.013, t = 0.248, p = 0.804$), PBC ($\beta = 0.035, t = 0.647, p = 0.518$), organic meat knowledge ($\beta = 0.097, t = 1.828, p = 0.068$) and meat characteristics ($\beta = 0.097, t = 0.518, p = 0.604$) have non-significant relationship with intention to purchase organic meat.

Table 4
Direct relationship

Hypothesis	Relationships	β	<i>t</i> -statistics	<i>p</i> -value	Status
H1	Attitude a purchase → intention	0.181	3.459	0.001	Supported
H2	Subjective norms → purchase intention	0.013	0.248	0.804	Not supported
H3	PBC → purchase intention	0.035	0.647	0.518	Not supported
H4	Food safety concerns → purchase intention	0.155	3.105	0.002	Supported
H5	Meat characteristics → purchase intention	0.028	0.518	0.604	Not supported
H6	Health consciousness → purchase intention	0.203	3.749	0.001	Supported
H7	Green self-identity → purchase intention	0.148	2.596	0.009	Supported
H8	Organic meat knowledge → purchase intention	0.097	1.828	0.068	Not supported

Note: * $p < 0.05$; ** $p < 0.011$

DISCUSSION AND CONCLUSION

This study has broadened our understanding of consumer behaviour by integrating the theory of planned behaviour with the addition of five more constructs. The present findings showed that Chinese consumers' intention to purchase organic meat was best explained by the perception of their attitude on organic meat purchases. The positive path of attitude on intention, confirming hypothesis H1, is consistent with previous research (Carfora et al., 2019; Chen & Li, 2007; Nguyen et al., 2019; Nuttavuthisit & Thøgersen, 2017; Zhou et al., 2013). Our findings reject the H2, which states that subjective norm has a significant influence on purchasing organic meat. Our findings suggest that people may not differentiate between organic and conventional meat after cooking. In other words, once organic meat has been cooked, it will not leave a noticeable track. As a result, consumers cannot recognise if they used organic or any other conventional meat. Another reason could be, after unpacking the organic meat; it is not easy to recognise it as organic or conventional meat. Our finding is

inconsistent with previous research claimed that consumer does pro-environmental purchase intention to lift their social status (Jaiswal & Kant, 2018; Liobikiene et al., 2017; Zhou et al., 2013). Our findings reject H3, which states that perceived behavioural control has a significant relationship with organic meat purchase intention, which is not consistent with past research (Carfora et al., 2019; Thøgersen et al., 2013; Wong & Mat said, 2017). It seems that the reason behind this finding might be the traditional norms of the collectivist society in which the willingness and decision of the family head matter more than the other members of the family.

Food safety concern has a positive direct relationship with the intention to purchase organic meat, finding similar to past studies (Nguyen et al., 2019; Wong & Mat said, 2017), hence H4 is supported. It seems that Chinese consumers are serious about food safety concerns and understand the food crisis and its impact on the environment and animal welfare issues. Our findings reject the H5, which states that meat characteristics have a direct and positive relationship with intention to purchase organic meat. Our study findings suggest that Chinese consumers seem to believe that organic meat has the same characteristics as conventional or ordinary meat, not influence their purchasing tendency. The finding does not match with the previous studies (Hoek et al., 2011; Sasaki et al., 2011; Wong & Mat said, 2017). The results further demonstrate that health consciousness has a significant positive relationship with Chinese consumers' intention to purchase organic meat. It supports hypothesis H6, finding consistent with previous research (Asif et al., 2018; Yadav & Pathak, 2016; Zagata, 2012).

Green self-identity has a positive relationship with purchase intention; findings support H7; the finding is similar to past studies (Carfora et al., 2019; Michaelidou & Hassan, 2008). The findings of this study emphasise the need to promote awareness in Chinese consumers about green consumerism. It also suggests that they should be educated about the environmental factor in general and about the benefits of consuming organic meat in particular. It further suggests that consumers should be educated to understand the concept, importance, and benefits of becoming "green consumers." Organic meat knowledge has a non-significant effect on the intention to purchase organic meat, the findings inconsistent with past studies (Nguyen et al., 2019; Smith & Paladino, 2010). Hence, H8 is not supported. This finding may be due to the lack of knowledge about organic meat. It suggests that Chinese consumers did not fully understand the unique benefits and properties of organic meat, which may hinder their purchasing intention.

Theoretical Contribution and Limitation

This study contributes significantly to the existing literature on intentional behaviour and expands and enriches it by focusing on the case of organic meat. This particular study setting was not found in related previous studies. This study extends the TPB framework by analysing several key components such as food safety concerns, organic meat characteristics, health consciousness, green self-identity, and organic-knowledge with attitudes, subjective norms, PBC, and intention to purchase organic meat. Such a combination of constructs in a single model seems to be missing in the existing TPB studies, in which the behaviour of organic food examined from the perspective of emerging countries. The theoretical implication of this study derives from the fact that it offers empirical support toward TPB (Ajzen, 1991), in terms of organic meat purchase intention in China, hence extending its scope and applicability.

To some extent, this study's findings make a theoretical contribution toward the body of knowledge and provide some significant insights of relevance to managers and organic manufacturers. The study's findings suggest an effective marketing strategy can boost consumers' attraction and motivation to purchase organic meat. Also, an aggressive marketing campaign should be launched to educate consumers about health and environmental benefits related to the consumption of organic products in general and organic meat in particular. Further, the marketing campaign should also promote awareness about the harmful effects of consuming conventional and non-organic meat, which could be reduced by consuming organic meat. The opinions of health experts can be added in the campaign by explaining the harmful effects of the hormones, chemicals, and antibiotics, which pose a serious threat to people's health, and they could prove more dangerous to the health of a future generation.

While interpreting this study's findings, the following limitations should be considered: Firstly, this study aims to investigate only one food category, organic meat. It does not cover all the food products that may be produced and consumed through organic farming. Secondly, it analyses the data from Wuhan, China. Therefore, the findings may not apply to other Chinese cities and other countries. Although this study investigates only one organic product category like organic meat, further research can be done on various organic products such as organic vegetables, organic milk, and organic skincare products. Third, in this study, we use purchase intentions to consume organic meat. Future research can be conducted on actual behaviour, and a comparison of intentions and actual behaviours can also be performed to broaden our understanding of how much intentions convert into actual behaviour.

APPENDIX

Attitude

1. I think that purchasing organic meat is a good idea.
2. I think that purchasing organic meat is interesting.
3. I think that purchasing organic meat is important.

Subjective norms

1. People who are important to me think that I should buy organic meat
2. My interaction with people influence me to buy organic meat
3. My acquaintances would approve of my decision to buy organic meat.

Perceived behaviour control

1. If I wanted to, I could buy organic meat instead of non-organic meat.
2. Organic meat is easily available in my area.
3. It's mostly up to me whether or not to buy organic meat.

Food safety concern

1. Nowadays most foods contain residues from chemical sprays and fertilizers.
2. I am very concerned about the number of antibiotics, veterinary residues and preservatives in meat.
3. The quality and safety of meat nowadays concerns me.

Meat characteristics

1. Organic meat has better appearance.
2. Organic meat has better smell.
3. Organic meat has better quality.

Health consciousness

1. I choose meat carefully to ensure good health.
2. I think of myself as a health-conscious consumer.

Green self-identity

1. I think of myself as a "green consumer."
2. I think of myself as a person who is interested in "green consumption."
3. I think of myself as someone who is very concerned with "green issues."

Organic meat knowledge

1. In comparison with an average person, I know a lot about organic meat.
2. I know a lot about how to judge the quality of organic meat.
3. People who know me, consider me as an expert in the field of organic meat.

Purchase intention

1. I expect to consume organic meat.
2. I would buy organic meat.
3. I try to consume organic meat for my long-term health benefits.
4. I intend to purchase organic meat produce within the next fortnight.

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