A Study of Organic Food Purchasing Behaviour Based on The Theory of Planned Behaviour
A Case Study of Generation Z in China

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Abstract: In recent years, food safety issues in China have become more frequent and have had a negative impact on the industry, leading to increasing consumer concern about food safety issues. As the economy continues to improve and people's disposable income increases, natural, nutritious, high-quality and safe organic food is becoming an increasingly popular choice, and consumer behavioural decisions regarding organic food purchases are receiving widespread academic attention. As a young force driving China's development, the Generation Z group is considered to be an environmentally and health-conscious generation. They are committed to achieving sustainable development and the corresponding awareness is reflected in their food choices.This paper will use the Theory of Planned Behaviour as a theoretical framework and also combine it with Risk Perception Theory to explore the organic food purchasing behaviour of Generation Z in China. The findings show that the behavioural attitudes, subjective norms and perceptual behavioural control of Generation Z are positively correlated with their intention to purchase organic food. The perceptions of risk possibility, risk controllability, risk fearfulness, risk visibility and risk consequences fearfulness of organic food information among Generation Z positively influence their organic food purchase intentions.

Keywords: Organic Food, Theory of Planned Behaviour, Generation Z, Buying Behaviour, Risk Perception Theory.

1.   Introduction

With the popularisation of the concept of green consumption, consumers' awareness of green consumption has increased significantly. Driven by the power of consumer upgrading and the increased awareness of health and safety, green and safe organic food is becoming more and more popular among the public. The China Organic Product Certification and [1] states that organic food sales in China reached 999,000 tonnes in 2020, with sales reaching RMB 80.45 billion. In addition, the organic food consumption market is growing at 25% per year [2].

Organic food is fresh or processed food produced through organic farming methods. Organic food is grown without the use of synthetic chemicals and is free from genetically modified organisms. It includes fresh produce, meat and dairy products as well as processed foods such as biscuits and beverages [3].

The definition of the age of Generation Z varies from region to region. In China, Generation Z

can be traced back as far as the China Youth Study in 1999. Some articles consider that people born between 1980 and 1984 to be Generation Z. The new Generation Z is now referred to as those born between 1995 and [4].

As a core force driving China's development, the physical and mental well-being of the Generation Z group is also important. With the introduction of a healthy lifestyle early in life, the Generation Z group is recognised as a community-oriented, environmentally conscious and health-conscious generation, and they are committed to achieving sustainable development (Su. et al, 2019). The corresponding awareness is reflected in the choice of food, leading to good eating habits [6].

The development of the organic food market is largely determined by consumer demand. A large number of scholars have explored consumers' intentions and behavioural decisions to purchase organic food. There is little literature on organic food purchasing intentions based on the Generation Z , which is the core force behind China's social development and is of great importance to research. Therefore, a clear understanding of the factors influencing the organic food purchasing decisions of Generation Z will not only help to promote China's talent pool, but also facilitate the marketing of organic food and the introduction and improvement of relevant government policies.

2. Literature Review

2.1. Theory of Planned Behaviour (TPB)

Ajzen (1991) extended the theoretical model based on the Theory of Rational Behaviour. Considering the limitations of the theory of rational behaviour, Aizen added the important variable of perceived behavioural control to the model and proposed a model of behaviour that is not entirely controlled by will control, which is the theory of planned behaviour. TPB is a more representative theory for consumer behaviour analysis at the micro level in recent years [8], and is widely used in the study of consumer purchase behaviour intentions due to its good predictive power [9]. The theory is based on an information processing perspective and takes the expected value as a starting point. It aims to study the factors influencing individual behaviour and to predict individual behavioural intentions in an attempt and explain the general decision-making process of individual behaviour [10].

The theory of planned behaviour has a wide range of applications. The main application areas in the early stages of the theory's development included health behaviours (smoking cessation, alcohol cessation, weight loss), teaching behaviours (new teaching methods, distance learning, student classes), and after 1990 it began to be applied to a wider range of areas, such as food safety and online shopping [9]. [11] in exploring the purchase of organic food by Iranian university students found that students' attitudes were the main predictor of their purchase of organic food, while neither subjective norms nor perceived behavioural control were significant predictors of intention. In addition to this deeper research into ethical norms and self-identity as additional factors to the theory of planned behaviour, [12] found a consistency between positive consumer attitudes and consumer purchasing behaviour.

2.2. Risk Perception Theory

"Risk perception" is a psychological concept that refers to an individual's perceptions and cognition of various objective risks that exist in the outside world, emphasizing the influence of the individual's experience gained from intuitive judgments and subjective feelings on the individual's cognition [13].

Risk perception was first introduced by [14] found in his study of consumer behaviour that consumers behave in a risky manner and that any behaviour has uncertain expected consequences.

Their risk perceptions were subjective risks rather than objective risks in the real world. Subsequently, some scholars have added to and refined the concept of consumer risk perception. Consumer psychologists agree that risk perceptions emerge from different types of potential negative consequences [15].The multidimensional model of risk perceptions advocates measuring risk perceptions in consumer buying behaviour in different dimensions. [16] measured four dimensions in terms of loss of self, loss of opportunity, loss of money and loss of time.

Jocoby & Kaplan (1972) identified five risk dimensions by measuring consumers' perceived risk for twelve products, including psychological risk, financial risk, performance risk, social risk and physical risk. They also indicate that the relative importance of each dimension varies across consumers' purchase decisions and suggest that time loss risk should be included. The six dimensions of psychological risk, financial risk, performance risk, social risk, physical risk and time-loss risk are already largely covered by consumers' risk factors for products in general. Scholars have also interpreted these six dimensions when studying consumers' risk perceptions of food purchases [18].

3. Method

This paper adopts the survey method and data analysis to conduct the research. In the selection of survey respondents, questionnaires were distributed through social media such as WeChat groups and Weibo to ensure the reliability of data and quality. The final 168 questionnaires were collected, containing 153 valid questionnaires, 90 (58.82%) were from females and 63 (41.18%) were from males. The effective rate of the questionnaires reached 91.07%, the data quality was high and in line with the requirements of this study.

Data analysis is the process of analysing a large amount of data collected using appropriate statistical analysis methods, and examining and summarising the data in detail by extracting useful information and forming conclusions [19]. According to the theoretical model and hypothesis, all variables can be measured by the scale, so this study use SPSS to analysis the data. The data analysis for this study included reliability analysis and correlation analysis. These components of data analysis will be used to test the validity of the previous assumptions of the integrative model and ultimately to draw research conclusions and corresponding recommendations.

All items measured in the questionnaire were rated on a five-point likert scale, and four variables were designed in the questionnaire: attitude, subjective intention, perceived behavioural control, and risk perception of the Generation Z population regarding organic food. To measure attitudes, seven items were designed to measure the attitudes of Generation Z towards organic food according to [20]; [21]. To measure subjective intentions, the subjective norms of Generation Z were categorised into family, respected people, friends, professionals and the media (media campaigns), taking into account the study by Zhang (2011) on consumer intentions towards organic restaurants and the study by [23] on the behavioural intentions of citizens to pay for biodiversity restoration.To measure perceptual behavioural control, the items of perceptual behavioural control were categorised into willingness to buy organic food, self-perceived ease of buying organic food, decision to buy organic food, and whether they have the conditions to buy organic food referring to the studies of [20]; [21] and Zhang (2011).

The response options for each of the three variables were set to "strongly agree", "agree", "average", "not very much agree" and "strongly disagree", and were marked with a score of 5, 4, 3, 2, 1. "Strongly agree" indicated the most positive attitude towards organic food, while "strongly disagree" indicated the least positive attitude towards organic food.

To measure risk perception, referring to [18], the risk perception of organic food in the Generation Z is divided into risk possibility, risk controllability, risk fearfulness, risk visibility and risk consequences fearfulness in five dimensions. Five items were designed to measure each

dimension. The response options for each of the five items are "strongly agree", "agree", "average", "disagree" and "strongly disagree". Risk possibility and risk controllability are design in reverse, with each of the five options being scored 1, 2, 3, 4 and 5. Strongly agreement indicating the weakest risk perception and strongly disagreement indicating the strongest risk perception. The risk fearfulness, risk visibility and risk consequence fearfulness are design in a forward direction, with the five options being scored 5, 4, 3, 2 and 1. Choosing strongly agree indicated the strongest risk perception and choosing strongly disagree indicated the weakest risk perception.

Based on the constructed research framework, this paper proposes the following hypotheses.

H1: Generation Z's attitude toward organic food influences their intention to purchase organic food, and they are positively correlated

H2: Generation Z's subjective norms about organic food affect their intention to buy organic food, and they are positively correlated.

H3: The perceptual behavioral control of organic food among Generation Z influences their intention to purchase organic food, and they are positively correlated.

H4: The perception of risk posibility, risk controllability, risk fearfulness, risk visibility, and risk consequence fearfulness of organic food information of Generation Z affect their intention to purchase organic food, and they are positively correlated.

4. Results

4.1. Reliability Analysis

Reliability is used to analyse the level of internal consistency of a scale and to assess the reliability of a scale and a measure by determining the degree of consistency. The higher the reliability coefficient, the more consistent and stable the test results are. Cronbach's Alpha was first introduced by L. Cronbach in 1951 to determine the internal consistency of a scale. When the Cronbach's Alpha coefficient is greater than 0.7, the scale is shown to be valid; when it is greater than 0.8, the scale is considered to be highly reliable (Wu, 2020). The reliability test in this study was as follows:

Table 1

Projects	Cronbach's Alpha	Number of items
Attitude	.916	7
Subjective intention	.907	5
Perceived behavioral control	.878	4
Risk perception	.912	15

As the results in the table show, the Cronbach's α values of all scales reached above 0.8 by SPSS reliability analysis, including Cronbach's α = 0.916 for the attitude scale, Cronbach's α = 0.907 for the subjective intention scale, and Cronbach's α = 0.878 for the perceived behavioral control scale, and Cronbach's α = 0.912 for the risk perception scale. The perceived behavioral control scale Cronbach's alpha = 0.878, and the risk perception scale Cronbach's alpha = 0.912, indicating that the reliability of all scales was good.

4.2. Correlation Analysis

When there is a connection between things but no direct causal explanation can be given, such a relationship between things is called correlation. Correlation analysis is the statistical analysis of the observed values of related things with some reasonable indicators. When the p-value is less than

0.05, it means that there is a significant correlation between the variables, and when the correlation coefficient is greater than 0, it means that there is a significant positive correlation between the variables, and the higher the value, the stronger the correlation (Wu, 2020). The correlation analysis in this paper is as follows:

Table 2

		Purchase intention
Attitude	Person Factor	0.810**
	P-value	0.000
Subjective norms	Person Factor	0.800**
	P-value	0.000
Perceptual behavioral control	Person Factor	0.789**
	P-value	0.000
Risk posibility	Person Factor	0.809**
	P-value	0.000
Risk Controllability	Person Factor	0.773**
	P-value	0.000
Risk Visibility	Person Factor	0.785**
	P-value	0.000
Risk fearfulness	Person Factor	0.805**
	P-value	0.000
Risk consequence fearfulness	Person Factor	0.808**
	P-value	0.000

The SPSS correlation analysis revealed that the P-values of all scales were less than 0.05, indicating that behavioral attitudes, subjective norms, perceptual behavior control, and risk perception are significantly related to organic food purchase intention. In addition, the Person correlation coefficients for all scales are greater than 0, and the lowest is 0.773**, indicating that behavioral attitudes, subjective norms, perceptual behavior control, and risk perception are all positively related to organic food purchase intentions. Among the risk perception variables, risk posibility have the greatest effect and risk controllability have the least effect.

5. Discussion

Based on risk cognition factors and the theory of planned behavior, this study constructs an analytical framework for the purchase intention of organic food among Generation Z. Through data exploration, This papaer explore the influencing factors of organic food purchase intention of the Z generation. The main conclusions of the study are:

(1) Hypothesis 1 is valid. The behavioral attitude of the Z generation towards organic food positively affects their intention to buy organic food. For Generation Z , the more positive their attitude towards organic food, the easier for them to buy organic food.

(2) Hypothesis 2 is valid, the subjective normative influence of Generation Z on organic food is positively affecting their intention to buy organic food. Subjective norms such as important people around and media information are the most important influencing factors of Generation Z consumers' purchase intention of organic food.

(3) Hypothesis 3 is valid, the perceptual behavioral control of organic food by Generation Z positively affects their intention to buy organic food. Consumers' perceived confidence and ability

to purchase organic food have a strong determinant effect on their purchase intention of organic food.

(4) Hypothesis 4 is valid, and the model with risk cognition factor added has better explanatory power to explain the formation mechanism of organic food purchase intention of the Generation Z. The cognition of the risk possibility, risk controllability, risk fearfulness, risk visibility and Risk consequence fearfulness of organic food information of the people in the Generation Z affects their purchase intention of organic food, and they all have a positive relationship. Among them, risk posibility has the greatest impact and risk controllability has the least impact. The perceived confidence and ability of the Generation Z to identify organic food has a strong role in determining their organic food purchase intention, especially the serious consequences of organic food risks can largely enhance the positive attitude of the Generation Z to purchase organic food.

This study shows that some Generation Z people are influenced by their friends and relatives and professionals to buy organic food, but previous studies show that some consumers do not know the real meaning and difference of organic food and choose to follow the trend blindly. In this case, the media and the government can increase publicity by introducing scientific research on the nutritional composition of organic and non-organic food in their reports, so that people can understand more clearly the difference between organic and non-organic food, and let Generation Z people choose organic food more rationally based on more complete knowledge.

In addition, subjective norms play a decisive role in determining the intention of the Generayion Z people to buy organic food. The higher the amount of discretionary money, the more likely to be influenced by the role. Therefore, organic food companies can also pay attention to the division and positioning of consumer groups in the development of food marketing strategies, based on a clear target group, to strengthen the promotion of product characteristics and quality, in order to form the target group of organic food buying atmosphere.

Finally, consideration of risk perception factors is also important. Reports indicate that there are misleading organic food packages on the market for food sales, and that the products sold do not meet the expectations of the audience. Therefore, authorities need to set a clear standard for classifying organic and non-organic foods, with strict government oversight at all stages. Such a standard would help consumers distinguish between real organic and non-organic food, rather than through high-end packaging and high prices. At the same time, relevant laws need to be introduced to regulate the market. False production and misleading propaganda should be banned, and this initiative will facilitate the healthy development of the organic food market.

This study applies the Theory of Planned Behavior to the study of organic food purchase intention of Generation Z, and integrates the Risk Perception Theory, which is innovative in terms of methodology and theory. From the perspective of the research field, both the theory of planned behavior and the risk perception theory belong to the field of psychology, and their application to explain the organic food purchasing behavior of the Generation Z has some interdisciplinary significance. In terms of research results, this study validated the theory of planned behavior to explain the organic food purchasing intention of the Generation Z people and developed a reliable scale. In general, this study has some value in theory and practice. However, the study inevitably has some limitations:

Firstly, Limitations of the sample. Most of the data in this study were collected from Generation Z students. Although the study covers a wide geographical area and is representative in terms of demographic and sociological characteristics, the differences in study, living environment, and daily consumption of the study group are not ignificantly different. This may have an impact on the results of the sample. For the future study, it is necessary to expand the scope of the questionnaire to include the working Generation Z people.

Secondly, The design of variables may not be complete. In this study, although the risk

perception variables, which have been discussed in the existing literature, were included in the discussion of organic food purchase intention of the Generation Z, some scholars also confirmed that consumers' past experiences about organic food events and trust in government or companies have an impact on their behavior. Therefore, For the future study, can try to add these variables to form a more complete model of the formation mechanism of organic food purchasing behavior of Generation Z.

Thirdly, The research method can be further improved. This study has used reliability test and correlation analysis to empirically study the theoretical model, which has certain persuasive power. However, more in-depth research is needed to rigorously confirm the relationship paths between variables and to describe the specific mechanisms that influence each other. Based on this study, future research can use higher quality sample data and structural equations to comprehensively study the relationship between variables and the formation mechanism of organic food purchase intention among Generation Z.

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