The Impact Of Service Quality, Perceived Value, Brand Image, And Customer Satisfaction On Brand Loyalty: A Study Of Freshipo, China

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Abstract
The fresh e-commerce industry is a new branch of China's fresh produce industry and has been growing rapidly in the wake of the COVID-19. The competition within the industry has become increasingly fierce, and each fresh e-commerce company hopes to have a loyal customer base to sustain its long-term healthy development. This study takes Preshippo as the research object, and combines the characteristics of the Chinese fresh produce e-commerce industry as "non-price competition", sets consumer perceived value, service quality and brand image as the independent variables, consumer satisfaction as the mediating variable and brand loyalty as the dependent variable, and uses an ordered logistic regression model to analyse the relationship between the above variables. The results of the data analysis showed that all three dependent variables had different levels of significant effects on brand loyalty. The above results show that the fresh e-commerce company how to increase the brand loyalty. In addition to this, it was also observed that age, education and income have an impact on brand loyalty, with age having a significant negative relationship with brand loyalty.

Keywords: Fresh e-commerce; brand loyalty; consumer satisfaction; non-price competition; ordered logistic regression

INTRODUCTION

As the standard of living of the Chinese people continues to improve, people began to pursue a healthier lifestyle. Therefore, fresh products such as fruits and vegetables account for an increasing proportion of residents' consumption structure. The sales of fresh products have also become a new growth point in the retail industry. At the same time, with the development of information technology and the popularity of smartphones, the sales of fresh products are also transitioning from the traditional model to the new e-commerce model. By 2020, the market transaction scale of China's fresh e-commerce industry has reached 458.49 billion yuan, the annual growth rate is 64%. As people expected, the volume of the market of the fresh e-commerce industry will be larger than 100 billion yuan in 2023.

Therefore, the industry will usher in a big step in the foreseeable future. However, there are still many problems in China's fresh e-commerce industry. Because the gross margin of fresh produce is relatively low and the homogenisation of goods is serious, the competition between fresh produce e-commerce brands in most cases is often "non-price competition", and in non-price competition, consumer satisfaction and loyalty are particularly important. As a representative enterprise in the fresh e-commerce industry, this thesis will analyze and study the operation status of Freshippo to find a business model for the sustainable development of the fresh e-commerce industry. Freshippo is a typical new fresh e-commerce enterprise.In the China Customer Satisfaction Index, Freshippo ranks first in terms of customer satisfaction and loyalty scores, which is why it was chosen for the study.

Freshippo is a typical new fresh e-commerce enterprise. They offer thousands of products from over a hundred countries around the world and guarantee delivery within half an hour to customers within a three-kilometer radius of the store. Meanwhile, they also offer dine-in meals, which allowing consumers to eat the food they buy in a short period of time. Based on offline experience stores, Freshippo integrates digital technologies and data values such as electronic price tags, a fully automatic hanging logistics chain system, and a middle desk drive into the whole process of operation, management, and service.

In the division of labor of the Freshippo system, offline physical stores focus on medium and high-end goods based on digital service scenarios to meet users' immediate needs and create their own high-end and fashionable brand image. Moreover, the excellent offline experience can also drain the online platform and become an online and offline integrated and innovative retail aggregate integrating big data fresh sales, processing, dining, and distribution to promote the combination of online and offline and create more revenue.

Freshippo has developed rapidly at an amazing speed since its birth. Its compound business model of "catering experience + supermarket retail + e-commerce distribution based on our store" shows strong competitiveness. In the first half of 2021

alone, the monthly active users of its platform exceeded 10 million. As of March 2022, Freshippo has 325 stores in China. These stores cover major cities in China, of which Shanghai has the most, with 74 Freshippo stores. To match this, Freshippo has established a supply chain system with 16 processing centers, 41 normal temperature and cold chain warehouses, and four fresh and live aquaculture warehouses in China. It can support various performance modes such as third day, ext-day, 30-minute, and S2B2V [1].

THEORETICAL BACKGROUND
Theories Foundation
Brand Loyalty Theory: Brand loyalty influences product or service quality, price, and other factors. Consumers have an emotional dependence on a specific brand and show biased behavioral responses to the brand's products or services [2]. This kind of behavior may be caused by consumers' internal favorable impression of the brand, or it may also be caused by impulse purchase, promotional activities, consumption inertia, switching costs, or other factors unrelated to emotion. Attitude loyalty is consumers' psychological and emotional attitude support for the brand. Consumers have developed feelings and are even proud of the brand and regard it as their friend and spiritual sustenance, thus showing the desire and behavior of continuous purchase [3].

SERVEQIAL Model: SERVEQUAL model is a service quality evaluation system based on the theory of Total Quality Management (TQM). It takes the gap between perceived and expected service quality as the key basis to measure the quality of service. The model covers five dimensions, namely tangibility, reliability, responsiveness, assurance and empathy, which are subdivided into 22 specific indicators as questionnaire items[4]. Tangibles: Tangibility refers to the parts that exist in the physical form in the service process, such as equipment, the clothes of the service personnel, and the environment of the service place.
Reliability: Reliability refers to a company's ability to deliver on its promises to consumers on time.
Responsiveness: Able to identify consumer needs and provide the required services in a timely manner.
Assurance: The ability to gain the trust of consumers through the professional knowledge and skills of employees.
Empathy: Service personnel can empathize with consumers and provide personalized care and services to consumers.

Ordered Logistic Regression (OLR) Model: Ordered logistic regression is generalize of Logit model, which is based on the principle of dividing multiple categories of an explanatory variable into several binary Logistic regressions. One of the underlying assumptions of ordered logistic regression is that the relationship between each pair of outcome groups is the same. In other words, ordered logistic regression assumes that the coefficients describing the relationship between the lowest and all higher categories of the response variable are the same as the coefficients describing the relationship between the second lowest category and all higher categories. This is called the parallel regression assumption.
Ordered multicategorical logistic regression and unordered multicategorical logistic regression can be classified according to whether the explanatory variables are ordered or not. When exploring the effects of different influences on ordered multicategorical variables, ordered multicategorical logistic regression analysis can be used and a logistic regression model that fits the number of levels of the dependent variable can be developed.

Literature Review
The fresh e-commerce industry is getting more and more attention from scholars as an emerging industry that adapts to the development trend of the times. In this section, we will sort out the research results. It is hoped that this part of the summary review will summarize the current academic research background.

The Chinese Fresh E-commerce Industry: Xiao(2013) concluded that China's related companies have four main categories: integrated e-commerce companies, vertical e-commerce companies, logistics enterprise e-commerce companies, and offline supermarket e-commerce companies. Meanwhile, she argues that the supply chain is a key factor in the development prospect of fresh e-commerce, and it is also a risk point that all fresh e-commerce enterprises need to face[5]. For the first time, Cheng(2014) makes a detailed analysis of the current development situation of China's fresh e-commerce industry. By comparing Chinese fresh e-commerce companies with more mature fresh e-commerce companies such as Local Harvest and Relay Food in the United States, she believes that the US development model is not fully applicable to China's current situation. She proposes to build a fresh e-commerce development path with Chinese characteristics[6]. Zhang(2016) argue that oligopolistic companies currently control the fresh e-commerce market in China, and this oligopoly leads to high logistics costs and commodity prices, which hinders fresh e-commerce from moving towards mainstream fresh retail model[7].

Service quality: Gronross(1982) added the concept of service quality to the service industry for the first time and answered the definition of customer perception and service quality. He believes that both technical result quality and functional result quality are components of service quality: the services customers obtain and enjoy in service. It is composed of service results and processes[8]. Based on the existing theoretical data at this stage, A. Parasuraman et al.(1988) summarized that the ten dimensions in service quality will be further compressed into five dimensions: tangibility, reliability, responsiveness, assurance, and empathy[9].Parasuraman et al.(2005) obtained the definition of

network service quality through research on shopping websites, that is, the degree to which the website can efficiently browse, purchase, and deliver orders[10].

Brand loyalty: Jacoby and Chestnut(1978) further subdivided brand loyalty into two dimensions: behavioral loyalty and attitudinal loyalty, which greatly affected the research direction of later scholars[11].
In the early stage of brand loyalty research, scholars put more energy on the dimension of behavioral loyalty. At this time, they pay more attention to customers' actual consumption behavior rather than customers' consumption attitude. Tucker(1964) has a far-reaching view. He believes that if a consumer purchases goods of a brand three consecutive times, the consumer is loyal to the brand. Scholars think that the number of times to reach brand loyalty is different although they think that the number of times to reach brand loyalty is different[12]. Raj(1985) added the number of times consumers bought this kind of goods to the number of purchases. He believed that the higher the proportion of buying a specific brand, the higher the brand loyalty[13].
Asseal et al. (1998) pointed out that brand loyalty is consumers' preference for specific brands, and it is this positive preference that promotes consumers to produce stable and continuous purchases[14].

Brand Image:Biel (1992) divided the brand image into three dimensions: corporate image, product/service image, and consumer image. Association is divided into "soft brand" and "hard brand," as shown in Figures 2.4. The "soft" attribute reflects the emotional attributes outside the product function, such as corporate social responsibility, the lifestyle represented by the product and so on. Once this emotional attribute is established, it will be difficult to imitate[15].
Aaker (1991) identified brand association and perceived quality as the two most important elements in a brand image but did not conduct specific research on various elements in these two dimensions.In his model, brand assets are divided into five categories: brand awareness, brand loyalty, brand association, brand perceived quality, and other exclusive brand assets, which do not perform in-display brands evenly[16].

Perceived Value:Zeithaml (1988) starts from the psychology of consumers, believes that perceived value is the harvest of customers in consumption, and defines perceived value as the value evaluation of products after customers compare their pay and income[17]. Anderson et al. (1992) analyzed perceived value in the business environment. They believe that perceived value is the sum of a series of values perceived by customers in consumption, including economic, technical, service, and social value[18].Holbrook (1996) puts more emphasis on consumers' experiences and preferences. He believes that perceived value is a relative, interactive, and preferred experience. Products create value by being experienced by consumers[19].Han (2005) identified online shopping as a new model for consumers to obtain value and divided the perceived value of online consumers into two dimensions: content value and environmental value, which emphasize the result and process of transaction, respectively[20].

Customer Satisfaction: Customer satisfaction is a psychological response to the satisfaction of customers' needs and a judgment of the characteristics of products and services or the degree to which the products and services themselves meet their needs (Oliver, 2001)[21].
Davies(2003) creatively put forward the theory of the "Corporate reputation chain," in which there is a direct relationship between brand image and customer loyalty[22]. Wei (2019) concluded in her research on smartphone brands that customer satisfaction is an intermediary between brand image and brand loyalty. It has been proved that brand image can directly affect brand loyalty in a short way, and brand image can also affect brand loyalty in a long way through customer satisfaction[23].

RESEARCH MODEL AND HYPOTHESIS
This thesis analyses the relationship between service quality, expected value, brand image, brand loyalty and customer satisfaction in the fresh produce e-commerce industry from an economic perspective against the backdrop of the continuing ravages of COVID-19 and the rapid development of the fresh produce e-commerce industry. Among them, brand loyalty is the dependent variable, service quality, expected value and brand image are the independent variables, and customer satisfaction is the mediating variable. The specific research model is shown in Figure 1.
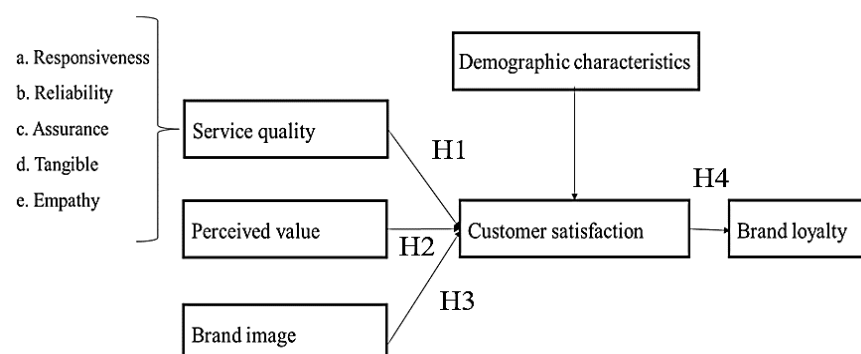

Figure 1: Research model

The service quality is measured by the five dimensions, namely reliability, assurance, tangibles, empathy, and responsiveness. In this study, the variables of each group are further subdivided to obtain more detailed results.

In conjunction with the above research model, the following hypotheses are proposed in this paper to analyse the role of each variable on brand loyalty using Freshippo as an example.

H1a: Responsiveness has a positive impact on Freshippo's customer satisfaction.

H1b: Reliability has a positive impact on Freshippo's customer satisfaction.

H1c: Assurance has a positive impact Freshippo's on customer satisfaction.

H1d: Tangible has a positive impact on Freshippo's customer satisfaction.

H1e: Empathy has a positive impact on Freshippo's customer satisfaction.

H2: Perceived value has a positive impact on Freshippo's customer satisfaction.

H3: Brand image has a positive impact on Freshippo's customer satisfaction.

H4: Freshippo's customer satisfaction has a positive impact on brand loyalty.

METHODOLOGY

Instrument

In this thesis, online questionnaires will be used to collect data from people who have shopping experiences in Freshippo. Because of the epidemic situation, many cities are unable to conduct field research, so in this study, online questionnaires are used to obtain data. Therefore, the target population is those who have shopping experience in Freshippo.

This questionnaire consists of two parts: the demographic information section and the research framework section with five variables. Twenty-nine scaled items were used to measure the five variables: service quality, brand image, brand loyalty, consumer satisfaction, and perceived quality. The part of the SERVEQUAL is divided into five dimensions (tangibility, reliability, responsiveness, assurance, and empathy). The measuring scale is a five-point Likert response scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Sample

A total of 385 valid questionnaires were collected from the five cities with the highest number of Freshippo shops, and the sample size was allocated according to the ratio of the number of shops to the total number of shops, as follows: Shanghai (154), Beijing (84), Shenzhen (51), Wuhan (48), Nanjing (48).

Model use

Data will be analyzed using an ordered logistic regression model and multiple linear regression. Because customer satisfaction is the mediated variable, so predict customer satisfaction (Ys) firstly.

$$\hat{Y}_s = \beta_0 + \beta_1 Sex_i + \beta_2 Age_i + \beta_3 Edu_i + \beta_4 Job_i + \beta_5 Inc_i + \beta_6 BI_i + \beta_7 SQ_i + \beta_8 PV_i + \mu_i \tag{1}$$

Then use the result to predict the brand loyalty (Y_l).

$$\hat{Y}_l = \theta_0 + \theta_1 \hat{Y}_s + \gamma_m \tag{2}$$

The variables in Equation (1) are defined as shown in Table 1

Table 1. Variable definitions

Variable	Definitions
Sex	The gendle of customer
Age	The age of customer
Edu	The education background of customer
Inc	The monthly income of customer
Job	The job of customer
Exp	The exoerience of customer shopping in Freshippo
BI	The brand image of Freshippo
SQ	The service quality of Freshippo
PV	The perceived value of Freshippo
CS	The customer satisfaction of Freshippo
BL	The brand loyalty of Freshippo

DATA ANALYSIS AND RESULTS
Descriptive Analysis

| Table 2: Demographic characteristics of the customer of Freshippo Demographic characteristics			
Gender	Male	Frequency	Percent
	Male	146	37.9%
	Female	239	62.1%
	Total	385	100.0%
Age	Unite: Year	Frequency	Percent
	20-30	217	56.4%
	31-40	97	25.2%
	41-50	45	11.7%
	>50	26	6.8%
	Total	385	100.0%
Education		Frequency	Percent
	High School and below	36	9.4%
	College degree	72	18.7%
	Bachelor's degree	210	54.5%
	Master and PH.D's degree	67	17.4%
	Total	385	10000.0%
Income	Unit:Yuan	Frequency	Percent
	<3000	39	10.1%
	3001-5000	89	23.1%
	5001-8000	132	34.3%
	8001-10000	77	20.0%
	>10000	48	12.5%
	Total	385	100.0%
Job		Frequency	Percent
	Public institutions	90	23.4%
	Professional technicians	81	21.0%
	Commercial and service industry workers	116	30.1%
	Secondary industry workers	32	8.3%
	Freelancer	56	14.5%
	Student	5	1.3%
	Others	5	1.3%
	Total	385	100.0%

The demographic characteristics of the sample selected for this study, including gender , age , education , income , and occupation , are reflected on Table 2 . Out of the 385 samples selected, the proportion of women among Freshippo's consumers is higher than that of men. In terms of age distribution, the main consumers of Freshippo are between the ages of 20 to 30, and decrease with age. In terms of educational distribution, Freshippo is more popular with consumers with a higher education background. In terms of income distribution, Freshippo is more popular among the middle- and high-income groups.In terms of occupational distribution,Freshippo is more popular with urban white-collar workers.
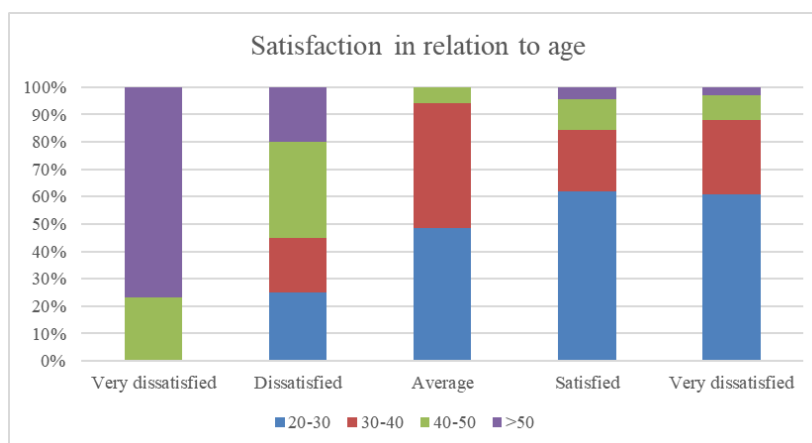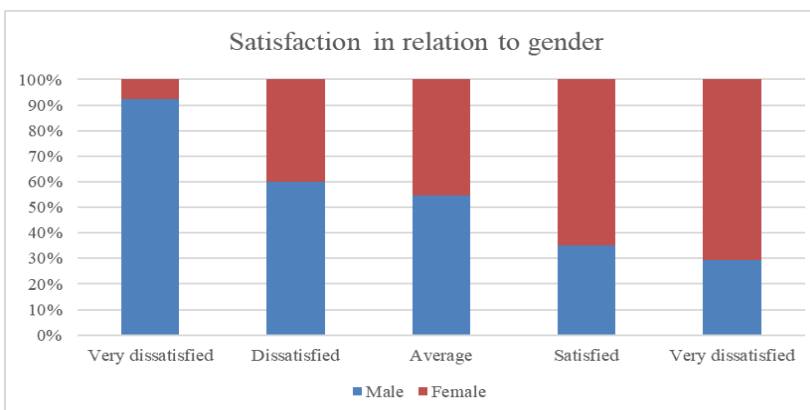

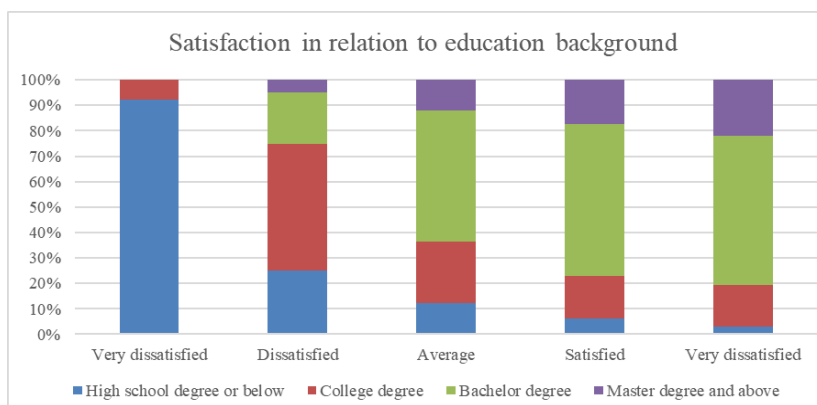**(a) Satisfaction in relation to age**
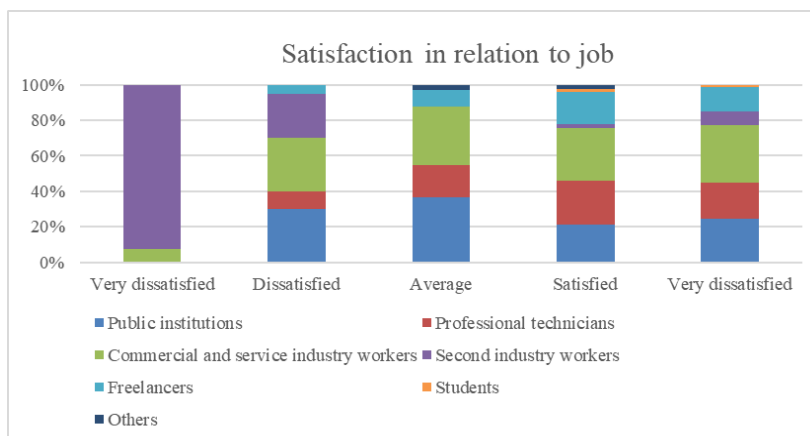
(b) Satisfaction in relation to job
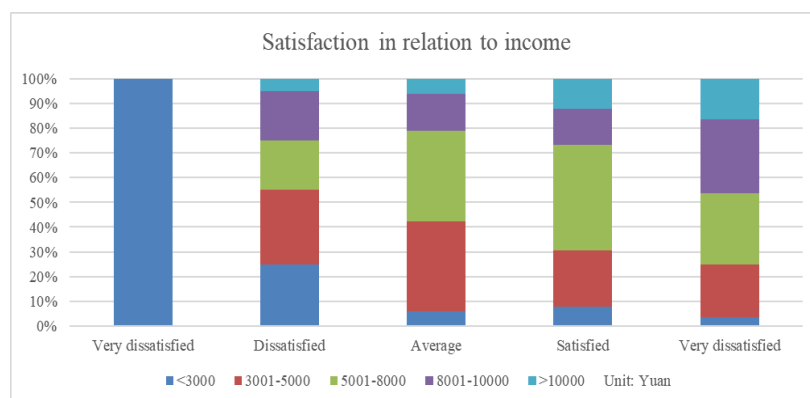
(c) Satisfaction in relation to income

(d) Satisfaction in relation to gender

(e) Satisfaction in relation to education background
Figure.2: Demographic distribution of customer satisfaction with Freshippo

Figure 2 shows the distribution of satisfaction among the respondents in this study. In terms of age distribution, the proportion of younger respondents increases as satisfaction rises. In terms of occupation, the largest proportion of dissatisfied respondents were workers in the secondary sector, while the largest proportion of satisfied respondents were in the commercial and service sectors. In terms of income distribution, as satisfaction increases, the proportion of people with middle and high incomes gradually increases. In terms of educational distribution, the proportion of people with higher levels of education gradually increases as satisfaction increases. In terms of gender distribution, the proportion of women gradually increases as satisfaction increases. We can therefore make the speculation that Frehsippo is highly favoured among young white women with high education and high income, while for older male workers with lower income and education, Freshippo is not as attractive to them.

Ordered logistic regression

Table 3: Ordered logistic regression results.

Infulence Factors	Estimate	Std. Err	Wald
Age	-0.286*	0.152	3.526
Education	0.339**	0.17	3.987
Income	0.201*	0.118	2.903
BI1	0.34*	0.196	3.022
BI2	-0.031	0.182	0.03
BI3	-0.065	0.177	0.135
BI4	0.349*	0.178	3.87
Reliability1	-0.07	0.182	0.149
Reliability2	0.324*	0.184	3.098
Reliability3	0.335*	0.188	3.182
Assurance1	0.297*	0.173	2.961
Assurance2	-0.46***	0.174	6.998
Assurance3	0.012*	0.173	0.005
Tangibles1	0.316*	0.19	2.755
Tangibles2	0.339*	0.18	3.547
Tangibles3	0.434**	0.199	4.753
Empathy1	0.397**	0.191	4.323
Empathy2	0.337*	0.185	3.326
Empathy3	0.344*	0.204	2.831
Responsiveness1	-0.044	0.179	0.061
Responsiveness2	0.333*	0.185	3.23
Responsiveness3	0.272	0.191	2.036
PV1	0.359*	0.193	3.462
PV2	0.304	0.195	2.444
PV3	0.079	0.189	0.176
PV4	0.322*	0.179	3.243
[Gender=1.00]	-0.313	0.264	1.41
[Job=1.00]	0.684	1.084	0.398
[Job=2.00]	0.312	1.08	0.083
[Job=3.00]	0.701	1.067	0.432
[Job=4.00]	1.17	1.193	0.962
[Job=5.00]	0.822	1.089	0.569
[Job=6.00]	1.216	1.507	0.651

As can be seen from the table above, 18 out of the 35 variables are significant. Since the meaning of the parameters of the OLR model is not intuitive, its regression results can only provide us with limited information in terms of significance and the sign of the parameters. In OLR, on the other hand, calculating marginal effects can provide a clearer sense of the association between the independent and dependent variables(Lian, 2015)[24]. In this study marginal effects are defined as the probability that a unit change in the explanatory variable affects the change from a lower to a higher level of satisfaction. Therefore in order to better understand the extent and manner in which each variable affects customer satisfaction, we have here obtained the marginal effects of each variable and customer satisfaction by further calculations.

Predicted marginal effects
Table 4: Predicted marginal effects of demographic factor variables

Variable		dy/yx	Std.Err.	P-value
age	Very dissatisfied	0.0032796	0.0016847	0.052
	Dissatisfied	-0.0021573	0.0011676	0.065
	average	0.0123255	0.0069772	0.077
	Satisfied	0.0275291	0.0143902	0.056
	Very dissatisfied	-0.040977	0.0216192	0.058
income	Very dissatisfied	-0.0023058	0.0013071	0.078
	Dissatisfied	0.0015167	0.0008477	0.074
	Average	-0.0086655	0.0051494	0.092
	Satisfied	-0.0193545	0.0111852	0.084
	Very dissatisfied	0.0288091	0.0166138	0.083
Education	Very dissatisfied	-0.003887	0.0019604	0.047
	Dissatisfied	0.0025568	0.0013597	0.06
	average	-0.0146083	0.0076459	0.056
	Satisfied	-0.0326276	0.0161189	0.043
	Very dissatisfied	0.048566	0.0240161	0.043

The above results show that as annual income and education increase, those who were previously satisfied or average will move towards those who are very satisfied and those who were previously very dissatisfied will move towards those who are dissatisfied, a phenomenon that reflects the positive effect of income and education on satisfaction. Age, on the other hand, can have a significant negative impact on consumer satisfaction.

Table 5: Predicted marginal effects of Brand Image

Variable		dy/yx	Std.Err.	P-value
BI1 (Freshippo is dynamic)	Very dissatisfied	-0.0039045	0.0022618	0.084
	Dissatisfied	0.0025683	0.0015378	0.095
	Average	-0.014674	0.0084349	0.082
	Satisfied	-0.0327744	0.0189323	0.083
	Very dissatisfied	0.0487846	0.0277793	0.079
BI4 (Freshippo is innovative)	Very dissatisfied	-0.0040087	0.0020803	0.054
	Dissatisfied	0.0026368	0.0014502	0.069
	Average	-0.0150656	0.0079807	0.059
	Satisfied	-0.0336491	0.0172889	0.052
	Very dissatisfied	0.0500866	0.0255437	0.05

Table 5 shows that the dynamic and innovative brand image has been able to increase consumer satisfaction with Freshippo in general.

Table 6: Predicted marginal effects of Reliability

Variable		dy/yx	Std.Err.	P-value
Reliability2 (Freshippo is credible)	Very dissatisfied	-0.0037215	0.0021069	0.077
	Dissatisfied	0.0024479	0.0014664	0.095
	Average	-0.0139861	0.0082033	0.088
	Satisfied	-0.031238	0.0177375	0.078
	Very satisfied	0.0464977	0.0262844	0.077
Reliability3 (Freshippo is well funded)	Very dissatisfied	-0.0038476	0.0021754	0.077
	Dissatisfied	0.0025309	0.0015034	0.092
	Average	-0.0144601	0.0083104	0.082
	Satisfied	-0.0322967	0.0182859	0.077
	Very satisfied	0.0480736	0.0269564	0.075

Table 6 shows that the credibility and financial strength of Freshippo can increase its Reliability, which in turn can increase consumer satisfaction with Freshippo in general.

Table 7: Predicted marginal effects of Assurance

Variable		dy/yx	Std.Err.	P-value
Assurance1 (Freshippo's service staff are professional)	Very dissatisfied	-0.0034075	0.0020173	0.091
	Dissatisfied	0.0022414	0.0014188	0.114
	Average	-0.0128063	0.0077062	0.097
	Satisfied	-0.0286028	0.0165089	0.083
	Very satisfied	0.0425752	0.0245457	0.083
Assurance2 (Freshippo's service processes are standard)	Very dissatisfied	0.0052798	0.0019844	0.008
	Dissatisfied	-0.003473	0.0013126	0.008
	Average	0.0198428	0.0077497	0.01
	Satisfied	0.0443189	0.0165819	0.008
	Very satisfied	-0.0659685	0.024365	0.007
Assurance3(Freshippo's product presentation is clear)	Very dissatisfied	-0.0001434	0.0019901	0.943
	Dissatisfied	0.0000943	0.0013112	0.943
	Average	-0.0005389	0.0074693	0.942
	Satisfied	-0.0012037	0.0166836	0.942
	Very satisfied	0.0017916	0.0248313	0.942

The standardisation of Freshippo's service processes is still at a relatively low level and is clearly not enough for customers with higher expectations, hence the negative correlation between service standardisation and satisfaction.

Table 8: Predicted marginal effects of Tangibles

Variable		dy/yx	Std.Err.	P-value
Tangibles2 (Ssatisfaction with the environment and facilities at Freshippo)	Very dissatisfied	-0.0038948	0.002128	0.067
	Dissatisfied	0.0025619	0.0014829	0.084
	Average	-0.0146375	0.0080502	0.069
	Satisfied	-0.032693	0.0174591	0.061
	Very satisfied	0.0486634	0.0258206	0.059
Tangibles3 (Satisfaction with the image and temperament of the service staff at Freshippo)	Very dissatisfied	-0.0049853	0.0023262	0.032
	Dissatisfied	0.0032792	0.0016137	0.042
	Average	-0.0187358	0.0087532	0.032
	Satisfied	-0.0418465	0.0195908	0.033
	Very satisfied	0.0622883	0.0285628	0.029

This table indicates that Freshippo's good environment and facilities as well as the image and temperament of its service staff can enhance its Tangibles, which can improve consumers' satisfaction with Freshippo in general.

Table 9: Predicted marginal effects of Empathy

Variable		dy/yx	Std.Err.	P-value
Empathy1 (Dealing correctly with problems encountered by consumers)	Very dissatisfied	-0.0045621	0.0021958	0.038
	Dissatisfied	0.0030009	0.0015473	0.052
	Average	-0.0171456	0.0086802	0.048
	Satisfied	-0.0382947	0.0184273	0.038
	Very satisfied	0.0570016	0.0273309	0.037
Empathy2 (Understanding consumer needs)	Very dissatisfied	-0.0038703	0.0022294	0.083
	Dissatisfied	0.0025458	0.0015638	0.104
	Average	-0.0145454	0.0080934	0.072
	Satisfied	-0.0324872	0.0180398	0.072
	Very satisfied	0.0483571	0.0264719	0.068
Empathy3 (Caring of consumers)	Very dissatisfied	-0.0039462	0.0023907	0.099
	Dissatisfied	0.0025957	0.0015957	0.104
	Average	-0.0148307	0.0089201	0.096
	Satisfied	-0.0331245	0.0199332	0.097
	Very satisfied	0.0493057	0.0293473	0.093

Table 9 indicates that Freshippo's excellent performance in Empathy has improved consumer satisfaction with Freshippo in general. The variable Empathy1 has the largest marginal contribution to consumer satisfaction.

Table 10: Predicted marginal effects of Responsiveness

Variable		dy/yx	Std.Err.	P-value
	Very dissatisfied	-0.0038184	0.0022199	0.085
	Dissatisfied	0.0025117	0.001559	0.107
Responsiveness2 (prompt response to customer service)	Average	-0.0143506	0.0082481	0.082
	Satisfied	-0.032052	0.0178401	0.072
	Very satisfied	0.0477094	0.026433	0.071

Table 10 shows that Freshippo's ability to improve the timeliness of its customer service response has improved consumer satisfaction with Freshippo in general.

Table 11: Predicted marginal effects of Perceived Value

Variable		dy/yx	Std.Err.	P-value
	Very dissatisfied	-0.0041171	0.0022505	0.067
	Dissatisfied	0.0027082	0.0015496	0.081
PV1(Freshippo's goods can satisfy demand)	Average	-0.0154732	0.0085811	0.071
	Satisfied	-0.0345594	0.018671	0.064
	Very satisfied	0.0514415	0.0276054	0.062
	Very dissatisfied	-0.0036954	0.0020881	0.077
	Dissatisfied	0.0024307	0.0014374	0.091
PV4 (Freshippo's goods fit the customer's social status)	Average	-0.013888	0.0079159	0.079
	Satisfied	-0.0310189	0.0173526	0.074
	Very satisfied	0.0461715	0.0256163	0.071

This table indicates that Freshippo's ability to provide customers with products that meet their needs and social status enhances their perceived value and thus increases consumer satisfaction with Freshippo in general.

Impact of Customer satisfaction on Brand loyalty

Table 12: Coefficients of Customer Satisfaction and Brand Loyalty

Factors	Coefficients[a]		t	P-value
	B	Std. Error		
(Constant)	1.129***[b]	0.162	6.954	0
CS	0.723***	0.039	18.648	0

a. Dependent Variable: BL
b. * indicates significant at the 0.1 level, ** indicates significant at the 0.05 level and *** indicates significant at the 0.01 level.

From the above results it can be concluded that there is a significant linear relationship between customer satisfaction and brand loyalty with a regression equation of BL=1.129+0.723CS. This proves that customer satisfaction has a significant positive effect on brand loyalty, which is in line with the relationship between satisfaction and loyalty derived by Sun (2021) for another fresh produce brand "Park Supermarket"[25].

DISCUSSION

In this study, data on consumer satisfaction and loyalty to Freshippo were obtained from a survey of 385 consumers with a Freshippo shopping experience, and these data were taken into an ordered logistic regression model and a linear regression model to empirically analyse the factors that have an impact on brand loyalty to Freshippo, as well as using the marginal effects of the different variables were also used to analyse the way in which this effect occurs. Combining the results of the data obtained above, the following results can be drawn.

Firstly, in terms of demographic factors, Freshippo's main customer base is concentrated among young people with high levels of education and income, with more women than men. And as income and education rise, so will customer satisfaction with Freshippo. On the contrary, however, as age increases, customer satisfaction with Freshippo tends to decrease. This situation is related to Freshippo's business strategy of actively embracing the young and the highly educated and high income group, putting more effort into catering to the preferences of this group and ignoring the preferences of those with low education and low income or older customers.

Secondly, in terms of brand image, the dynamic and innovative brand image is another reason why Freshippo has gained popularity among customers. This is also related to the fact that its main consumer group is young people, and that

dynamism and innovation are factors that young people like today, so as Freshippo increases the dynamism and innovation in its brand image, its customers' satisfaction and loyalty to Freshippo will also increase.

Thirdly, in terms of service quality, the unquestionable credibility and financial backing of Freshippo eliminates some of the worries that customers have when shopping at Freshippo, while Freshippo creates a pleasant shopping environment by creating comfortable surroundings and facilities, and the professional and well-presented service staff make the shopping process easier for customers. In addition to this, Freshippo's unforgettable service experience is characterised by prompt customer service and the correct handling of customer problems. The downside is the lack of standardisation of service processes, which greatly affects the overall evaluation of Freshippo by customers.

Fourthly, in terms of perceived value, Freshippo provides customers with the products that they need and that are in line with their social status, enabling them to satisfy their basic consumption needs and social needs at the same time, making them feel that they have made a worthwhile visit to Freshippo. This also greatly increases consumer satisfaction and loyalty to Freshippo.

RECOMMENDATIONS
Policy recommendations
The first is the development of industry standards for the fresh e-commerce industry.
As China's fresh e-commerce industry is still in the stage of rapid development, the market has a broad prospect, and there are constantly capital and resources are entering the industry, so the government should, to an appropriate to promote healthy competition among enterprises in the industry and regulate the industry to an appropriate extent, promote healthy competition among enterprises in the industry and try to achieve the optimal allocation of resources. In addition, the government should also guide the development of industry standards to regulate the development of the fresh e-commerce industry and to control the quality of fresh e-commerce products.

The second point is to optimise the fresh produce logistics system.
As China's fresh produce production is characterised by small scale and scattered distribution, this affects the speed of fresh produce supply on the one hand, and raises the procurement costs of fresh e-commerce companies on the other, and these adverse effects will ultimately affect consumers' shopping experience. Therefore, the government can first improve the fast logistics policy for agricultural products, simplify the logistics procedures for agricultural products to improve transportation efficiency, and adjust the list of those enjoying the fast logistics policy for agricultural products according to the trial situation. Secondly, it should optimise its policy on urban freight vehicle access, allocate more transport permits to key fresh e-commerce enterprises and open up more access slots to them. Lastly, strengthen the cooperation between government and enterprises to help fresh e-commerce enterprises in the construction of cold chain warehouses. Promote cold chain logistics enterprises to build "field + direct sales + network" multi-level agricultural warehousing and preservation of cold chain logistics system, to achieve the full range of fresh agricultural products cold chain logistics services.

The third point is to strengthen the training of relevant talents.
Government departments can start from the talent needs of fresh e-commerce enterprises and carry out the training of professional talents related to them. Encourage graduates of agricultural products or e-commerce related majors to actively join the fresh e-commerce industry, and improve the service level of fresh e-commerce enterprises by improving the professional level of practitioners, thus promoting the rapid development of the fresh e-commerce industry.

Business recommendations
The first is to broaden the user base.
Most current fresh e-commerce companies still focus solely on high-income young people as their main customer demographic, but as China's population ages, middle-aged and elderly people are bound to be the next major users of fresh e-commerce. Therefore, major fresh e-commerce brands should combine the actual needs and characteristics of the elderly, simplify the shopping process, lower the shopping threshold and provide services suitable for the elderly to broaden the market and increase revenue.

To achieve this, fresh e-commerce companies need to target the characteristics of older people and offer services suitable for this segment of the population in both online and offline services. In online platforms, companies can introduce a 'simple mode', where larger fonts, simpler descriptions and fewer steps make it easier for older people who are not proficient with smartphones to place orders. For offline services, optimise logistics services by providing home delivery services or strengthening cooperation with neighbourhood committees and community supermarkets to increase pick-up points and simplify the process of picking up goods for the elderly.

The next step is to optimise the service process. From the analysis of Freshippo, the standardised service processes currently in use are still relatively low-level, and for the highly educated and high-income young people who are currently the main consumers, this level of standardised service still does not meet their needs, which greatly affects the consumers' loyalty to the fresh food e-commerce brand. Therefore, the major fresh e-commerce enterprises also need to optimise and

upgrade their current service processes based on their own actual situation, to form a distinctive, dynamic and high-quality service process, so as to achieve the purpose of combining the actual society's real-time needs and constantly updating.

In order to achieve this goal, fresh e-commerce enterprises should promote the standardization of the whole process of service and establish a customer-centric standard system. Firstly, in the pre-sales link, product quality standards should be established to meet customer requirements, forming a standardised whole chain from the purchasing end, packaging, temperature zone equipment control, traceability system, logistics and transportation. Secondly, in the sales chain, uniform requirements and centralised training will be given to the dress code of sales staff and the service process to ensure stable and consistent service quality. Finally, in the after-sales chain, the product after-sales standards are established to protect the rights and interests of customers, and the actual needs and expectations of customers are reflected in the after-sales service system to establish a consistent after-sales service standard and service process.

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