

WHAT FACTORS ATTRACT STUDENTS TO CONTINUOUSLY USE ONLINE FOOD DELIVERY PLATFORMS: AN EMPIRICAL STUDY BASED ON TAM AND SERVICE QUALITY

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Abstract: This study aims to identify determinants of college students' continuance intention to use online food delivery (OFD) platforms by integrating the Technology Acceptance Model (TAM) and service quality theory. Data were collected from 163 valid questionnaires via random sampling at university OFD pick-up points. Partial least squares structural equation modeling (PLS-SEM) was employed using SmartPLS 4.1.4 for data analysis. Delivery service quality influences continuance intention indirectly through satisfaction. Platform technical quality and price value perception affect continuance intention via perceived usefulness. Satisfaction and perceived usefulness directly drive continuance intention. Food quality perception and food safety trust show no significant effects. This study extends TAM to O2O food delivery services and validates dual mediation paths of satisfaction and perceived usefulness, offering an operational framework for platform optimization. The sample is limited to one university; future research may enlarge sample scope and adopt longitudinal design. Platforms should prioritize delivery service, technical stability and student-oriented pricing to boost continuance usage.

Keywords: Continuance intention; Online food delivery platform; Technology Acceptance Model; Service quality; Structural equation modeling; University students

1 INTRODUCTION

As the O2O business model matures and continues to expand, online food delivery (OFD) has become an indispensable part of college students' daily lives. According to CNNIC's 52nd Statistical Report on Internet Development, as of June 2023, the number of OFD users in China reached 535 million, accounting for 49.6% of the total number of Internet users. Restricted by campus living conditions such as school dormitory restrictions and canteen queues, college students are becoming the core consumer group of OFD services, with more than 80% of them using these platforms 1-5 times a week [1].

As competition in the food delivery market intensifies and subsidy-driven growth recedes, improving the loyalty and continued usage intentions of college student users has grown up to be a key challenge for the OFD platform. Different from traditional catering services, OFD involves the interaction of platform technology, food and logistics services provided by merchants, making service quality a multi-dimensional construct. Therefore, studying the key factors that influence college students' willingness to continue using OFD platforms has important theoretical and practical significance for platform operators to improve their operations.

The Technology Acceptance Model (TAM) of Davis explains the behavior of technology adoption through the two core variables of perceived usefulness (PU) and perceived ease of use (PEOU), and has been widely used in research on technology behavior [2]. However, TAM mainly focuses on technology-related factors and ignores the role of service quality in shaping user intentions. In contrast, service quality theory emphasizes the direct impact on user satisfaction and loyalty through multidimensional service quality, but its research on OFD under the TAM theoretical framework has not been fully explored [3].

This study combines TAM and service quality theory to construct a new impact model to measure the impact of OFD among college students on their intention to continue. The model consists of five dependent variables (delivery service quality, platform technology quality, food quality perception, food safety trust and price value perception) and two mediating variables (perceived usefulness and satisfaction). Questionnaire distribution was implemented through the Questionnaire Star online platform, and sample data were randomly collected through university OFD collection points. A total of 217 questionnaires were distributed, and 163 valid questionnaires were recovered. Data analysis was performed using PLS-SEM of SmartPLS 4.1.4 to verify the proposed hypotheses.

2 LITERATURE REVIEW

2.1 Online Food Delivery User Behavior Research

The research findings of Koay et al. not only proposed the five core dimensions of OFD service quality including safety assurance, meal quality, reliability, security and responsive service quality, but also verified that service quality is a key factor in attracting users to continue using it [4]. Service quality indirectly affects users' willingness to continue using services through satisfaction. Tandon et al. also replicated this finding in an empirical study in India, once again confirming that service quality affects users' continued use intention through satisfaction and cross-regional validation of the service quality-satisfaction-loyalty framework [5].

In a study specifically focusing on the university student population, Efendi et al. found that OFD application design, system usability, delivery service standards, timeliness and security features significantly affected Malaysian student satisfaction [6]. Efendi et al. research shows that the important reason why college students choose OFD is the price advantage, which reflects the important incentive for college students to choose OFD [6].

2.2 Technology Acceptance Model (TAM)

Perceived usefulness (PU), perceived ease of use (PEOU) and behavioral intention form the core of the TAM theory proposed by Davis [2]. PU focuses on measuring the extent to which users use technology to help achieve their goals; PEOU reflects the ease of use of the technology. Due to its simplicity, strong explanatory power, and strong versatility, TAM has been widely used in research in many research fields such as e-commerce, mobile applications, and OFD services.

2.3 Service Quality Theory

The five dimensions of reliability (the ability to perform promised services reliably and accurately), responsiveness (the willingness to help customers and provide prompt service), assurance (the knowledge and courtesy of employees and the ability to inspire trust and confidence), empathy (providing care and personalized attention to customers), and tangibility (the appearance of physical facilities, equipment, and personnel) are the core of the SERVQUAL model [3]. With the rapid development of online platforms, scholars have developed the SERVQUAL model to adapt to changes in reality. Huang et al. added efficiency, fulfillment and system availability to the model and proposed the mSERVQUAL model [7]. Guan et al. and Wu et al. all studies have shown that the reliability, timeliness and completeness of delivery services in OFD services have a positive impact on user satisfaction [7-9].

3 RESEARCH MODEL AND HYPOTHESES

3.1 Research Model

This study combines the above literature review to construct a theoretical model consisting of eight latent variables, divided into three functional groups: (1) dependent variable: continuance intention (CI), which this study defines as the user's subjective willingness to maintain their OFD use behavior in the long term; (2) Independent variables: delivery service quality (DSQ), food quality perception (FQP), food safety trust (FST), platform technical quality (PTQ), and price value perception (PVP). These variables are considered to be core exogenous factors that may have a direct or indirect impact on CI; (3) Mediating variables: perceived usefulness (PU) and satisfaction (SAT), as the intermediate path connecting the antecedent variables and CI (Figure 1).

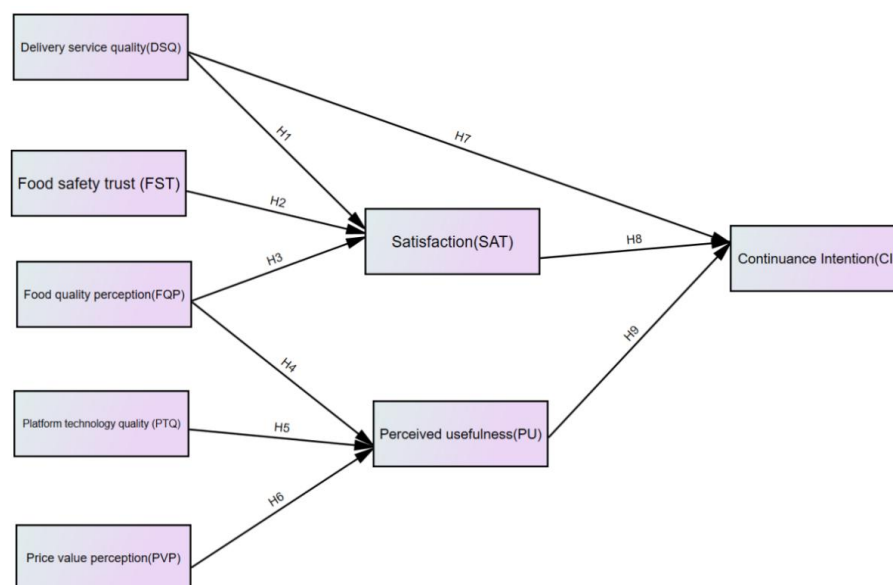


Figure 1 Theoretical Model of Continuance Intention to Use OFD Platforms

3.2 Research Hypotheses

3.2.1 Delivery service quality and satisfaction

Guan et al. did an empirical study on users' use of OFD and found that distribution information quality and reverse logistics services have a significant impact on customer satisfaction [8]. At the same time, satisfaction plays a mediating role between DSQ and repeat purchase intention, which indicates that high-quality delivery services have a significant impact on improving satisfaction and thereby promoting continued use behavior.

H1: Delivery Service Quality has a positive effect on Satisfaction.

3.2.2 Food safety trust and satisfaction

Food Safety Trust (FST) has become a research hotspot in various industries. Multiple studies have confirmed that food safety affects users' willingness to continue using online food delivery (OFD) platforms. Foroghi et al. and Tran confirmed that food safety affects continuance intention through satisfaction [10-11].

H2: Food Safety Trust has a positive effect on Satisfaction.

3.2.3 Food quality perception and satisfaction

Research by Lee and Han and Hu shows that food quality strongly affects satisfaction and further influences continuance intention [12-13].

H3: Food Quality Perception has a positive effect on Satisfaction.

3.2.4 Food quality perception and perceived usefulness

Empirical research by Wu et al. found that high food quality can significantly enhance users' continuance intention and perceived usefulness [9].

H4: Food Quality Perception has a positive effect on Perceived Usefulness.

3.2.5 Platform technology quality and perceived usefulness

Baum et al. developed a comprehensive electronic service quality scale for OFD platforms and found that system efficiency and information quality significantly affected users' satisfaction and perceived value [14].

H5: Platform Technology Quality has a positive effect on Perceived Usefulness.

3.2.6 Price value perception and perceived usefulness

Renaldi et al. confirmed that PVP significantly affects customer loyalty in the sharing economy, and this effect is also reflected in the formation of PU [15].

H6: Price Value Perception has a positive effect on Perceived Usefulness.

3.2.7 Delivery service quality and continuance intention

The study by Guan et al. found that DSQ may have a direct impact on continued reuse intention [8].

H7: Delivery Service Quality has a positive effect on Continuance Intention.

3.2.8 Satisfaction and continuance intention

Karahan and Wu et al. confirmed that satisfied OFD users are more likely to continue using the service [9, 16].

H8: Satisfaction has a positive effect on Continuance Intention.

3.2.9 Perceived usefulness and continuance intention

Choi and Podel et al. confirmed that PU is the main predictor of user continuation intention [17].

H9: Perceived Usefulness has a positive effect on Continuance Intention.

4 RESEARCH METHODOLOGY

4.1 Questionnaire Design

The questionnaire consists of two parts: (1) Demographic information: gender, age, average monthly OFD expenditure, weekly ordering frequency; (2) Constructed measurement items: adapted from the mature scale used in existing studies, using a 5-point Likert scale (1=strongly disagree, 5=strongly agree) for measurement.

To ensure consistency and accuracy between Chinese and English versions, the questionnaire underwent back-translation: two English teachers with academic translation experience independently translated the English version to Chinese and vice versa, with discrepancies resolved through joint discussion [18]. The final questionnaire was reviewed by three statistics professors/associate professors for IOC testing, with all items achieving IOC > 0.5---meeting the standard for good content validity [19-20].

4.2 Sampling and Data Collection

Random sampling at university OFD pick-up points is mainly for the following two reasons: (1) These locations gather a large number of active real OFD users, ensuring the relevance of the sample; (2) The interviewees have actual OFD use experience, ensuring the validity of the data.

The questionnaire was completed using an online questionnaire (Questionnaire Star Platform). The researcher conducted the study at the school's takeout pick-up and drop-off point, and the data collection time was from December 8 to 10, 2025 (noon: 11:30--13:00; afternoon: 17:30--19:00). A total of 217 questionnaires were distributed, and 163 valid questionnaires were recovered, with an effective recovery rate of 75.1%. The researcher randomly invited students to participate and explained the purpose of the study and the data confidentiality policy. Fully complies with research ethics and morals.

4.3 Data Analysis Method

There are three main points to consider when choosing to use SmartPLS 4.1.4 for PLS-SEM hypothesis testing: (1) Exploratory analysis is suitable for influencing factors and mechanisms (rather than confirmatory analysis); (2) It is suitable for small sample (N=163) analysis. Relax the requirements for sample size and data distribution, consistent with the study sample size; (3) Better handle complex models with multiple mediating variables (Table 1) [21-22].

Table 1 Measurement Items and Sources

Latent Variable	Items	Source
Food Quality Perception (FQP)	FQP1 The OFD platform provides high-quality and fresh food.	Wu et al. (2024); Koay et al. (2022)
	FQP2 Different restaurants on the platform provide consistently reliable food quality.	
Food Safety Trust (FST)	FST1 I believe the OFD platform strictly controls food safety risks.	Ali et al. (2021); Muangmee et al. (2021)
	FST2 The food sources provided on the platform are transparent and trustworthy.	
Price Value Perception (PVP)	PVP1 The prices on the OFD platform are proportional to the value of goods received.	Rinaldi et al. (2024); Efendi et al. (2023)
	PVP2 The prices of delivered meals are reasonable and competitive.	
Delivery Service Quality (DSQ)	DSQ1 Food delivery arrival time is usually punctual.	Guan et al. (2025); Wu et al. (2024)
	DSQ2 The delivery personnel have a friendly service attitude.	
	DSQ3 The food packaging is well-protected during the delivery process.	
Platform Technology Quality (PTQ)	PTQ1 The OFD platform enhances the convenience of my life.	Baum et al. (2023); Mohamed Noor et al. (2024)
	PTQ2 Using the OFD platform saves my time.	
Perceived Usefulness (PU)	PU1 Using this OFD platform improves my efficiency in managing daily meals.	Davis (1989); Choi (2020)
	PU2 Using this OFD platform enhances my overall life quality.	
Satisfaction (SAT)	SAT1 Overall, I am satisfied with the OFD platform I currently use.	Karahan (2025); Oliver (1980)
Continuance Intention (CI)	CI1 I am willing to recommend the OFD platform to others.	Karahan (2025); Bae & Chang (2020)
	CI2 I am willing to continue ordering meals through this OFD platform.	

5 DATA ANALYSIS RESULTS

5.1 Common Method Bias Test

Table 2 Explanatory Power of Structural Model (R^2 Values)

Endogenous Variable	R^2	Adjusted R^2	Interpretation
Continuance Intention (CI)	0.640	0.635	Moderate
Perceived Usefulness (PU)	0.709	0.705	Strong
Satisfaction (SAT)	0.447	0.442	Moderate

Note: According to Chin, R^2 values of 0.25, 0.50, and 0.75 represent weak, moderate, and strong explanatory power, respectively [23].

Since this study collects data through self-report questionnaires (Table 2), common method bias (CMB) may be a concern. Harman's single-factor test was employed for CMB assessment. Exploratory factor analysis (EFA) of all items shows that the first factor explains 38.47% of the variance, which is below the 50% threshold, indicating that CMB is not a serious issue in this study [22].

5.2 Measurement Model Assessment

Measurement model assessment includes reliability tests, convergent validity tests, and discriminant validity tests. As shown in Table 3, all latent variables have Cronbach's α coefficients ranging from 0.854 to 0.912 (all > 0.7), Composite Reliability (CR) ranging from 0.901 to 0.935 (all > 0.8), and Average Variance Extracted (AVE) ranging from 0.694 to 0.779 (all > 0.5), indicating good internal consistency and convergent validity. Discriminant validity is confirmed by the Fornell-Larcker criterion (Table 4), with the square root of AVE for each construct exceeding its correlations with other constructs.

Table 3 Reliability and Validity Test Results

Latent Variable	Cronbach's α	rho A	Composite Reliability	AVE
Continuance Intention (CI)	0.912	0.915	0.935	0.779
Delivery Service Quality (DSQ)	0.892	0.894	0.920	0.698
Food Quality Perception (FQP)	0.876	0.878	0.913	0.725
Food Safety Trust (FST)	0.854	0.856	0.901	0.694
Platform Technology Quality (PTQ)	0.901	0.903	0.927	0.762
Perceived Usefulness (PU)	0.885	0.887	0.919	0.694
Price Value Perception (PVP)	0.868	0.870	0.908	0.711
Satisfaction (SAT)	0.894	0.896	0.922	0.748

Note: All latent variables have Cronbach's $\alpha > 0.7$, CR > 0.8 , and AVE > 0.5 , indicating good internal consistency and convergent validity.

Table 4 Discriminant Validity (Fornell-Larcker Criterion)

	CI	DSQ	FQP	FST	PTQ	PU	PVP	SAT
CI	0.883							
DSQ	0.542	0.835						
FQP	0.412	0.523	0.851					
FST	0.456	0.578	0.612	0.833				
PTQ	0.678	0.612	0.498	0.534	0.873			
PU	0.712	0.589	0.456	0.512	0.742	0.833		
PVP	0.534	0.567	0.489	0.523	0.612	0.589	0.843	
SAT	0.756	0.689	0.478	0.534	0.678	0.712	0.623	0.865

5.3 Structural Model Assessment

Table 5 Path Coefficients and Hypothesis Testing Results

Hypothesis	Path	β	SE	T-value	P-value	Result	f ²
H1	DSQ $\rightarrow$ SAT	0.537	0.062	8.645	<0.001	Supported***	0.366
H2	FST $\rightarrow$ SAT	0.079	0.043	1.851	0.064	Not Supported	0.011
H3	FQP $\rightarrow$ SAT	-0.024	0.055	0.438	0.662	Not Supported	0.001
H4	FQP $\rightarrow$ PU	-0.012	0.066	0.184	0.854	Not Supported	0.000
H5	PTQ $\rightarrow$ PU	0.744	0.041	18.147	<0.001	Supported***	1.460
H6	PVP $\rightarrow$ PU	0.197	0.073	2.690	0.007	Supported**	0.034
H7	DSQ $\rightarrow$ CI	0.040	0.081	0.496	0.619	Not Supported	0.003
H8	SAT $\rightarrow$ CI	0.418	0.110	3.787	<0.001	Supported***	0.134
H9	PU $\rightarrow$ CI	0.386	0.148	2.612	0.009	Supported**	0.107

Note: ***p<0.001, **p<0.01, *p<0.05; Bootstrap resamples = 5000.

Table 6 Indirect Effects Test Results

Indirect Path	Effect	SE	T-value	P-value	95% CI	Result
DSQ $\rightarrow$ SAT $\rightarrow$ CI	0.224	0.068	3.304	0.001	[0.097, 0.359]	Significant***
PTQ $\rightarrow$ PU $\rightarrow$ CI	0.287	0.110	2.609	0.009	[0.076, 0.507]	Significant**
PVP $\rightarrow$ PU $\rightarrow$ CI	0.076	0.036	2.124	0.034	[0.008, 0.149]	Significant*
FQP $\rightarrow$ PU $\rightarrow$ CI	-0.005	0.026	0.184	0.854	[-0.056, 0.046]	Not Significant
FST $\rightarrow$ SAT $\rightarrow$ CI	0.033	0.018	1.851	0.064	[-0.002, 0.069]	Not Significant

Note: ***p<0.001, **p<0.01, *p<0.05; CI=Continuance Intention, DSQ=Delivery Service Quality, PTQ=Platform Technology Quality, PU=Perceived Usefulness, PVP=Price Value Perception, SAT=Satisfaction.

As shown in Table 2, the model demonstrates strong explanatory power for continuance intention ($R^2=0.640$), perceived usefulness ($R^2=0.709$), and satisfaction ($R^2=0.447$). Table 5 presents path coefficient results: among 9 hypotheses, 5 are supported (H1, H5, H6, H8, H9) and 4 are not supported (H2, H3, H4, H7).

The main empirical results of this study are as follows: 1. The path coefficient of distribution service quality (DSQ) to satisfaction (SAT) reaches 0.537 ($p < 0.001$), and the effect size (f^2) is 0.366, which shows that there is a strong positive correlation between DSQ and SAT. 2. The path coefficient between platform technical quality (PTQ) and perceived usefulness (PU) is 0.744 ($p < 0.001$), and the effect size (f^2) is 1.460, which also shows that there is a very high correlation between PTQ and PU. 3. The path coefficient of satisfaction (SAT) is 0.418 ($p < 0.001$), and the path coefficient of perceived usefulness (PU) is 0.386 ($p = 0.009$), indicating that SAT and PU have a high correlation with CI, proving that satisfaction and perceived usefulness are important factors for the continued use of college students.

Table 6 shows the indirect effects of the model. The results show that there are three significant indirect influence paths: 1. Satisfaction (SAT) has a significant mediating effect on delivery service quality (DSQ), with an indirect effect value of 0.224 ($p = 0.001$); 2. Perceived usefulness (PU) has a significant mediating effect on platform technical quality (PTQ), with an indirect effect of 0.287 ($p = 0.009$); 3. Perceived usefulness (PU) has a significant mediating effect on price value perception (PVP), and the indirect effect reaches 0.076 ($p = 0.034$). The specific impact mechanism analysis is as follows:

5.3.1 Indirect effect mechanism of delivery service quality

Delivery service quality (DSQ) has no significant direct impact on continuance intention (CI) ($\beta = 0.040$, $p = 0.619$). Therefore, hypothesis H7 is not supported by the empirical data. However, hypothesis H1 is supported and distribution service quality (DSQ) has a significant positive impact on satisfaction (SAT) with a path coefficient of 0.537 ($p < 0.001$) and an effect size (f^2) of 0.366, which belongs to the medium effect category. The mediating effect test results also show that delivery service quality (DSQ) can indirectly affect continuance intention (CI) through satisfaction (SAT), and the indirect effect value is 0.224 ($p = 0.001$). This result confirms the effectiveness of the intermediary path of "delivery service quality $\rightarrow$ satisfaction $\rightarrow$ continuance intention" proposed in this study.

5.3.2 Dual influence path of platform technology quality

Platform technical quality (PTQ) has a strong positive impact on perceived usefulness (PU), with a path coefficient of 0.744 ($p < 0.001$) and an effect size (f^2) as high as 1.460, indicating that hypothesis H5 has strong empirical support. Likewise, hypothesis H9 was also supported by the data, with perceived usefulness (PU) having a significant positive impact on continuance intention (CI) ($\beta = 0.386$, $p = 0.009$). The mediating effect test results also show that perceived usefulness (PU) is very significant as the mediating effect of platform technical quality (PTQ), with an indirect effect of 0.287 ($p = 0.009$).

5.3.3 Influence mechanism of price value perception

Price value perception (PVP) has a significant positive effect on perceived usefulness (PU) ($\beta = 0.197$, $p = 0.007$), proving that hypothesis H6 is supported by the empirical results. The mediation effect test also shows that perceived usefulness (PU) has a certain effect as a mediator of price value perception (PVP), with an indirect effect value of 0.076 ($p = 0.034$). It is worth noting, however, that the relatively small effect size makes this indirect effect statistically significant, weak but effective.

5.3.4 Direct driving effects of satisfaction and perceived usefulness

Satisfaction (SAT) has a significant positive impact on continuance intention (CI), with a path coefficient of 0.418 ($p < 0.001$) and an effect size (f^2) of 0.134, which proves that hypothesis H8 has strong empirical support. At the same time, perceived usefulness (PU) also showed a significant positive impact on continuance intention (CI) ($\beta = 0.386$, $p = 0.009$). From the perspective of the explanatory power of the model, the R^2 value of continuance intention (CI) is 0.640, indicating that the constructed theoretical model can explain 64.0% of the variance of user continuance intention (CI), reflecting the strong explanatory power of the model.

5.3.5 Non-significant effects of food quality perception and food safety trust

Hypotheses H2, H3, and H4 were not supported by the empirical data. Food quality perception (FQP) had no significant effect on perceived usefulness (PU) ($\beta = -0.012$, $p = 0.854$) or satisfaction (SAT) ($\beta = -0.024$, $p = 0.662$). Furthermore, the effect of food safety trust (FST) on satisfaction (SAT) does not reach traditional significance levels ($\beta = 0.079$, $p = 0.064$), although the p value is close to 0.05, which just indicates the presence of a marginal but non-significant positive trend.

6 DISCUSSION

6.1 Mediation Effect of Delivery Service Quality

The research results show that satisfaction (SAT) is an important mediator of delivery service quality (DSQ) and continuance intention (CI), which once again confirms the classic theory of "service quality-satisfaction-loyalty" proposed by Heskett et al., and will further verify the applicability of this framework in OFD service scenarios [25].

From the specific influence path, the coefficient between delivery service quality and customer satisfaction ($\beta = 0.537$, $p < 0.001$) shows that there is a significant relationship between the two. This result proves that the three core elements of delivery timeliness, delivery staff's service attitude and food packaging protection affect user satisfaction and willingness to continue using the platform.

This empirical conclusion provides clear guidance for the operation of the OFD platform: if the platform hopes to better retain users and continue to use it, it needs to focus on factors that affect customer satisfaction: logistics timeliness, distribution efficiency, packaged food safety and other specific measures. The improvement of satisfaction will naturally translate into users' continued willingness to use and the competitiveness of the platform, which has important practical value for the long-term operation of the OFD platform.

6.2 Validation of Platform Technology Quality and TAM Theory

This study verifies that the Technology Acceptance Model (TAM) theory and its extended model are also applicable to online food delivery (OFD) research, extending the boundaries of the use of the Technology Acceptance Model. The most important finding is that platform technical quality (PTQ) has a strong positive effect on perceived usefulness (PU) ($f^2 = 1.460$). According to Cohen's effect size criterion, the intensity of this effect can be classified as "very strong", which fully reflects the important role of platform technical attributes on user perceptions [24-25].

This result not only expands the application boundary of TAM from the traditional information technology field to O2O service scenarios, but also clearly proves that the platform's technical performance (including system stability, operational efficiency and information accuracy) will directly shape users' value judgments on services. Platform technical quality has a significant indirect effect on continuance intention (CI) through perceived usefulness.

6.3 Unexpected Findings on Food Quality and Safety Trust

This study came to an unexpected empirical finding: food quality perception (FQP) and food safety trust (FST) have no significant impact on satisfaction (SAT), perceived usefulness (PU) and continuation intention (CI). This is in sharp contrast to the previous literature with FQP and FST as the core research focus [26].

The cause of this difference is most likely related to the unique attributes of the college student sample: as a price-sensitive group, and with relatively tight daily dining time, college students are more likely to give priority to practical factors such as service convenience, delivery efficiency, and cost-effectiveness when choosing takeout services, rather than prioritizing food quality and safety. This means that for student users, food quality and safety are more inclined to "standard compliance factors" - meeting basic standards is the prerequisite for service, but even if it exceeds expectations, it is difficult to become the core driving force to improve their satisfaction or continued use intention; on the contrary, if it provides an experience that exceeds expectations in terms of convenience and cost-effectiveness, it can more significantly affect the continued use behavior of college students.

From the perspective of practical use, this research finding provides clear business guidance for the OFD platform: when formulating marketing strategies for college students, the focus should be on price strategies (more discounts, more attractive prices) as well as fast service response speed and more convenient platform operations, rather than the traditional emphasis on food safety and quality.

7 THEORETICAL CONTRIBUTIONS AND PRACTICAL IMPLICATIONS

7.1 Theoretical Contributions

The unique theoretical contributions of this study are as follows.

Extend the applicable field of TAM to O2O and expand the theoretical boundaries of TAM. It is empirically verified that the Technology Acceptance Model (TAM) is also suitable for studying OFD platform scenarios.

Enrich the service quality-loyalty relationship theory. Research has proven that service quality, especially distribution service quality DSQ and platform technology quality PTQ, directly affect the multi-path mechanism of users' willingness to continue using. It clarifies the complex indirect relationship between service quality and continuance intention, filling the gap that previous research mainly focused on the direct relationship.

Combine price value perception (PVP) with the TAM model to build a theoretical bridge between user value perception and technology acceptance. This perspective provides a new theoretical entry point for understanding how value-related factors affect users' continued use of OFD platforms.

7.2 Practical Implications

Based on the above empirical results, four targeted suggestions are put forward for the OFD platform:

Pay attention to the quality of delivery services to continuously improve satisfaction: improve the timeliness of physical delivery to reduce delays; improve the service attitude and professionalism of delivery personnel; continuously upgrade food packaging materials to ensure the integrity of food during transportation.

Continuously upgrade the technical quality of the platform and improve the perceived usefulness of the platform: optimize the ease of use of the platform app to make operations simpler and easier; while ensuring system stability; optimize the algorithm to make personalized recommendations based on different user preferences; share real-time order tracking in a timely manner to enhance the transparency of the platform.

Optimize the price value perception of the platform: launch a student membership discount system for college students; implement differentiated pricing strategies for students; occasionally conduct preferential promotional activities for students during the exit period (such as issuing coupons, group purchases, etc.) to increase college students' willingness to use it.

Develop specific marketing strategies for students: Emphasize the convenience of the platform (such as one-click ordering, fast delivery), highlight the platform's price advantages (such as student discounts) and efficient delivery efficiency to meet the core needs of student users.

8 LIMITATIONS AND FUTURE RESEARCH

8.1 Limitations

The limitations of this study mainly include the following:

Limitations of the sample: The empirical data of this study come from one university and have limited reflection on different regions and other sample students (different majors and different living environments).

Cross-sectional design: Data collection mainly focuses on students' meal time periods, and does not fully reflect dynamic relationships, such as changes in the reasons, motivations, and intentions behind students' platform ordering during non-meal times.

Self-selection bias: Survey data collection is concentrated at OFD pick-up and drop-off points, mainly focusing on OFD active users, with limited exposure to inactive users, thus limiting access to a wider group of college students.

8.2 Future Research Directions

To address the limitations of the study, combined with existing research, future research can focus on the following aspects:

Add new independent variables in existing research (such as social influence, user habits, platform trust, switching costs, perceived risks) to enrich the theoretical model.

Refine the study sample population and conduct segmentation analysis based on demographic characteristics (such as gender, grade, monthly expenses) and behavioral characteristics (such as order frequency, payment method) to more accurately find differences in influencing mechanisms.

Update research methods and adopt a combination of quantitative and qualitative methods (e.g., in-depth interviews, focus groups) to gain a deeper understanding of students' motivations for using OFD and their decision-making process for using the platform.

9 CONCLUSION

This study builds a new model by integrating TAM and service quality theory to verify the influencing factors of college students' continued use of takeout platforms. The empirical data is mainly analyzed through pls-sem on 163 valid questionnaires. The empirical conclusions are as follows: (1) DSQ indirectly affects CI through SAT; (2) PTQ strongly predicts PU and further drives CI; (3) PVP indirectly affects CI through PU; (4) SAT and PU both directly affect CI; (5) FQP and FST have no significant impact on the focus variables. The R^2 of the CI in the values is 0.64, demonstrating that the model explains 64.0% of the variance in the CI. This research extends the application expansion field of TAM to the O2O service environment and provides an operational path for the OFD platform. Although this study has certain limitations, it explores future OFD user behavior research and provides empirical research support for the food delivery platform to continue to increase the usage rate of college students, a large user group.

COMPETING INTERESTS

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

ETHICS APPROVAL

This study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of West Yunnan University of Applied Sciences. All procedures involving human participants were performed in accordance with the ethical standards of the institutional research committee.

CONSENT TO PARTICIPATE

Informed consent was obtained from all individual participants included in the study. Participation was voluntary, anonymous, and confidential.

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