

The Factors Affecting Consumers' Continuance Intention to Use Online Food Delivery Platforms: A Service Quality Perspective

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Abstract. The purpose of this study is to build a model based on the Information Systems Success Model to identify the online food delivery platforms' (OFD) service quality dimensions that impact consumer satisfaction and trust, and drive continuance usage. Data was collected through an online questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results suggest that service outcome quality, service recovery quality, and service process quality all positively influence consumer satisfaction and trust, thereby reinforcing their continuance intention. Among these dimensions, service outcome quality has the greatest impact on satisfaction and trust, emphasizing the importance of meeting customers' needs for prompt meal delivery. Furthermore, service recovery quality is the most critical factor affecting trust despite its relatively smaller impact on satisfaction. Although consumers perceive higher service process quality of OFD, its influence on satisfaction and trust is relatively small. Finally, this study concludes with several suggestions for OFD to improve the quality of their service across various dimensions.

Keywords: Online food delivery platform, service process quality, service outcome quality, service recovery quality, satisfaction, trust, continuance intention

1. Introduction

Through collaboration with numerous food and beverage stores and providing food delivery services, online food delivery platforms (OFD) have become one of the biggest beneficiaries of the Covid-19 pandemic by meeting the demand of consumers to enjoy a variety of cuisines without going out. As many brick-and-mortar food and beverage stores would join the ecosystems of multiple delivery platforms [1], there is a high homogeneity of meals available on OFDs. Thus, understanding how to continuously attract consumers and increase their intention to continuously use the platform to order meals is an important and indispensable task to maintain competitiveness. Porter [2] pointed out that products include goods and services; since goods can be easily imitated, quality services are a weapon that companies can use to win through differentiation strategies. Therefore, for OFD with high product homogeneity, it is crucial to strengthen platform services and enhance consumers' continuance usage intention.

The Information Systems Success Model (IS success model) proposed by DeLone and McLean [3] was often utilized to investigate information system acceptance. Wang et al. [4] found that the platform's information, system, and service qualities can increase users' trust and satisfaction with the platform, leading to higher continuance intention. However, numerous studies have suggested that when applying the IS success model to service quality, the dimensions of service quality should be extended based on the characteristics of the research context. For example, based on the characteristics of agricultural products, Hu et al. [5] operationalized the service quality of agricultural product shopping websites to include three dimensions: service process quality, service outcome quality, and service recovery quality.

OFD also provides food-based products and pays special attention to consumers' perceptions of the product ordering procedure, preservation of the visual appearance and freshness of the product during transport, delivery of the product within the promised time, and immediate recovery of service failures. These service characteristics coincide with the service quality measures for agricultural product sales platforms proposed by Hu et al. [5]. Therefore, this study also uses consumers' perceptions to measure the

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service quality of OFD in three dimensions and further investigate the effect of each dimension on consumers' satisfaction.

Wang et al. [4] also found that service quality has the greatest impact on trust in the delivery platform compared to system quality and information quality. However, in the measurement of service quality, their study considered only the delivery person's personal influences, such as appearance, ability, and professionalism. It did not consider that consumers' perceptions in different service processes, from ordering to food delivery and handling of problem orders, may have different effects on trust in the platform.

This study aims to utilize IS success model [3] as a foundation and incorporate the three service quality dimensions to comprehensively examine the impact of service process quality, service outcome quality, and service recovery quality of OFD on customers' satisfaction and continuance intention to use OFD. Furthermore, we extend the IS success model by incorporating trust into our research mode by investigating how trust in the OFD is influenced by the three dimensions of service quality and its relationship with continuance usage intention. This study contributes to a more comprehensive understanding of the service quality-related factors influencing consumers' satisfaction and continuance intention to use OFD.

2. Literature Review

2.1. Information systems success model (IS success model)

The IS success model was developed to investigate factors affecting the success of traditional enterprise information systems [8]. This model posits that the information quality, system quality, and service quality of an information system or an e-commerce website are important factors affecting users' satisfaction and usage intention, which in turn affect the net benefits of the system. This model has been utilized as a foundation to explore the success factors for various new e-commerce platforms, including mobile payment [7] and OFD [4]. For instance, Wang et al. [4] examined the factors affecting users' intention to continuously use OFD. Their results indicate that platform quality, service worker, and content consistency have significant positive effects on trust in the platform and consumer satisfaction, both of which have an effect on continuous usage intention.

2.2. Service quality

The concept of service quality refers to the gap between customers' expectations of the service and customers' perceptions of the service after it is delivered [9]. Collier & Bienstock [11] proposed that the service quality of online retailers (i.e., e-service quality) should encompass service process quality, service outcome quality, and service recovery quality. Service process quality refers to the consumer's perception of the quality of interactions with the system when using the website service; service outcome quality is the consumer's assessment of the quality of the delivery process and the outcome of service delivery; service recovery quality is defined as the consumer's perception of the quality of the remedies offered by the service provider in the event of a service or product failure.

Numerous studies have adopted the e-service quality measurement framework developed by Collier & Bienstock [11] to investigate the effects of service quality on satisfaction in the online retail context. The services of OFD involved in the purchase process include searching for meals and placing orders on the APP, timely delivery of orders to consumers, and handling problems after orders are delivered. All these processes are deemed necessary by consumers to evaluate a platform's service quality.

2.3. Online Food Delivery platforms (OFD)

Currently, a number of studies have explored factors related to consumers' use of OFD, factors of consumer satisfaction and loyalty [13], and factors of continuance intention [4]. As seen in the literature, numerous perspectives have been adopted to explore the factors that may influence OFD customers' satisfaction, loyalty, trust, post-purchase behavior, repurchase, or continuance intention. However, the service quality perspective has seldom been used to explore the effects of service quality on continuance intention to use OFD.

3. Research Model and Hypotheses Development

This study develops a model (as depicted in Fig. 1) by drawing upon IS success model [3] and Hu et al.'s [7] dimensions of service quality. The hypotheses proposed in this study are explained as follows.

3.1. The effects of service process quality, service outcome quality, and service recovery quality on satisfaction quality, and service recovery quality on satisfaction

Li and Kananurak [14] define service process quality as customers' perceptions of the attitudes, behaviors, and professionalism of courier service personnel during the product delivery. Service outcome quality refers to customers' perceptions of the condition of the product delivered by the courier. Service recovery quality pertains to customers' perceptions of the remedial measures offered by the courier service provider in the event of a service failure. These dimensions are essential in shaping customer satisfaction and loyalty in the competitive courier industry. Their findings indicate that all three quality dimensions are significantly related to customer satisfaction. Zhang et al. [15] explored the effects of service process quality, service outcome quality, and service recovery quality on customer satisfaction in the online retail context. All three service quality dimensions were found to have a significant effect on customer satisfaction.

The service dimensions of an OFD also include service processes, service outcome, and service failure recovery. Based on the results of prior research, this study argues that all three service quality dimensions are positively related to customer satisfaction with the OFD and thus proposes the following hypotheses:

H1-H3: (1) Service process quality, (2) service outcome quality, and (3) service recovery quality of an OFD positively influence satisfaction with the platform.

3.2. The effects of service process quality, service outcome quality, and service recovery quality on trust

The positive relationship between the above three service quality dimensions and trust has been empirically confirmed in the literature [21]. Surucu et al. [16] found that order accuracy, personal contract quality, order discrepancy handling, timeliness of order delivery, ordering procedure, and order condition positively related to consumers' trust in the brand, implying that for logistics service providers, service process quality, service outcome quality, and service recovery quality significantly impact trust. Kim et al. [17] suggested that when consumers feel that the service failure has been appropriately addressed, their perception of the store's service recovery quality will be strengthened, leading to a higher trust in the store.

Similarly, this study infers that consumers' trust in an OFD increases if they experience good service process quality, service outcome quality, and service recovery quality of the platform. Therefore, this study proposes the following hypotheses:

H4- H6: (4) Service process quality, (5) service outcome quality, and (6) service recovery quality of an OFD positively influence consumers' trust in the platform.

3.3. Trust, satisfaction, and continuance intention

Trust is one's evaluation of the extent to which the other party will fulfill their promises based on reliability and accuracy [17]. According to previous results on OFD, trust plays a pivotal role in shaping customer satisfaction and the intention to continue using such services [4]. Scholars have also found that customer satisfaction directly impacts continuance intention to use OFD [18]. Lee et al. [18] verified that satisfaction is significantly related to repurchase intention in the fresh food products OFDs context.

Likewise, this study infers that consumers' trust in an OFD is conducive to their satisfaction with the platform. Besides, both trust and satisfaction can positively influence continuance intention to use the OFD. Hence, this study proposes the following hypotheses:

H7-H8: Trust in the OFD positively influences (7) satisfaction and (8) continuance intention.

H9: Satisfaction with the OFD positively influences continuance intention.

4. Method and Data Analysis

4.1. Data collection and demographic analysis of the sample

Based on the questionnaire survey method, an online questionnaire was developed to collect data. A total of 196 valid responses were collected. In this sample, female respondents outnumber male ones (n=103,

52.6%), most respondents have a university/college education degree (n=140, 71.4%), the largest age group is 21-29 years old (n=43,21.9%), and most respondents have used the platform for 1.5-2 years (n=48, 24.5%), once every 5-6 days (n=67, 34.2%), and spend NT\$200-300 in each purchase (n=80, 40.8%).

4.2. Measurement model test

This study adopted the partial least squares structural equation modeling (PLS-SEM) method to assess the measurement and structural models. The composite reliability (CR) and rho_A were used as measures of internal consistency [19]. As shown in Table 1, the CR value and rho_A are higher than 0.7 across all the constructs, suggesting that the questionnaire has good construct reliability. Additionally, all the average variance extracted (AVE) values range between 0.588-0.747, indicating good convergent validity. Table 1 also shows that all the heterotrait-monotrait ratio (HTMT) values between constructs fall in the range of 0.397-0.872 and are smaller than 0.9 [22], suggesting that the questionnaire has good discriminant validity.

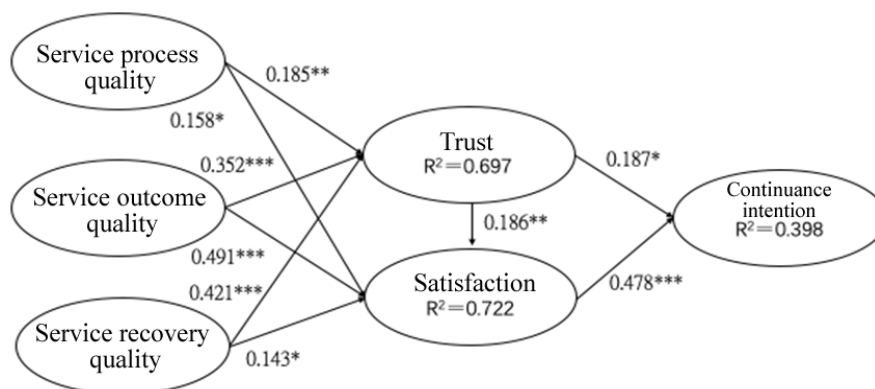
Table 1: Estimates of parameters in the measurement model and HTMT between constructs

Code	Mean	S. D.	AVE	rho_A	SP	SO	SR	TP	CS	CI
SP	5.268	0.921	0.633	0.937	1					
SO	5.165	0.984	0.657	0.891	0.872	1				
SR	4.595	1.342	0.796	0.940	0.689	0.683	1			
TP	4.912	1.148	0.804	0.942	0.783	0.782	0.838	1		
CS	5.234	0.967	0.750	0.937	0.838	0.87	0.766	0.818	1	
CI	5.508	1.202	0.927	0.974	0.680	0.545	0.397	0.581	0.657	1

Note: Service process quality:SP; Service outcome quality:SO; Service recovery quality:SR; Trust Platform:TP; Customer satisfaction:CS; Continuance intention:CI

4.3. Structural model test

The structural model testing result is shown in Fig. 1. The results show that all the hypothesized relationships are significant. Three service quality dimensions explain a total of 69.7% variances in trust, and when combined with trust, they explain 72.2% of variances in satisfaction. Trust ($\beta=0.187$, $P<0.01$) and satisfaction ($\beta=0.478$, $P<0.001$) significantly affect continuance intention, explaining 39.8% of its variances.



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

Fig. 1: Structural model testing result

5. Discussion and Practical Implications

The results indicate satisfaction has the greatest influence ($\beta=0.478$, $P < 0.001$) on continuance intention to use OFD, followed by trust ($\beta=0.187$, $P < 0.05$). Although this echoes the evidence in Wang et al. [4], service quality in their study is represented mainly by the professionalism and appearance of delivery persons. Given that previous studies have suggested that differences in service and product items offered by the platform may also affect consumers' satisfaction and trust in the platform [23], this study further extends Wang et al.'s [4] service quality dimensions by exploring the effects of service process quality, service outcome quality, and service recovery quality of OFD on customer trust and satisfaction.

In terms of satisfaction, service outcome quality has the greatest effect ($\beta=0.491$, $P < 0.001$), followed by service process quality ($\beta=0.158$, $P < 0.05$) and then service recovery quality ($\beta=0.143$, $P < 0.05$). This finding supports Wang et al.'s [4] results, suggesting that the service quality of delivery persons is still the key to improving user satisfaction. We further reveal that OFD should also focus on the ordering process quality by improving the convenience of the ordering process, the clarity of product descriptions, and the accuracy of product photos in reflecting the actual food appearance. Besides, when consumers encounter a service failure, they should provide immediate assistance to help them solve post-delivery problems.

The results also reveal that the three service quality dimensions have different effects on trust and satisfaction. Although service recovery quality has a relatively smaller impact on satisfaction compared to the other two service dimensions, it affects trust to the most significant extent ($\beta=0.491$, $P < 0.001$), followed by service outcome quality ($\beta=0.158$, $P < 0.05$) and then service process quality ($\beta=0.143$, $P < 0.05$). This finding suggests that the products sold on general e-commerce websites, such as books, clothes, or consumer electronic products, do not have the characteristic of "instant consumption." In the event of a service failure, consumers tend to show a higher tolerance and also have a lower demand for instant assistance or an instant solution to the order problem. In contrast, the main products and services offered by OFD are "cuisines that can be consumed instantly" and "professional and timely delivery". Timeliness and immediate response to service failures are critical to both the product and the service of OFD. Notably, in Table 1, service recovery quality has the lowest mean value score among the three dimensions ($\mu=4.595$). This highlights that in order to gain consumer trust, OFD still needs to be dedicated to improving its handling of service failures. Unfortunately, most OFDs do not offer good service recovery quality.

Finally, service process quality has a lower effect on satisfaction or trust but has the highest mean value among the three dimensions ($\mu=5.268$). Given the widespread prevalence of online shopping, it is reasonable to expect that consumers have become familiar with the ordering process. Consequently, they are more likely to focus their attention on the quality of service outcomes and service recovery offered by OFD.

We finally propose a few suggestions for OFD to strengthen its service quality based on our findings. First, OFD service providers can leverage information technologies to develop algorithms that optimize delivery routes and enable consumers to track their orders in real time with greater precision. Furthermore, OFD service providers can introduce instant interaction features between delivery persons and consumers to ensure that any accident that may cause a delay in delivery is immediately reported to the consumer. The history of such interactions can also be maintained for subsequent analysis of potential problems and ways to improve the overall delivery service, such as problems with the planned route or failure to report accidents to the consumer. By implementing these designs, OFD services can reduce consumers' uncertainty regarding the delivery status and increase their satisfaction and trust in the platform, leading to continuance use of OFD.

Second, service recovery quality is considered the dimension that meets users' expectations the least ($\mu=4.595$), suggesting that improving order management is an urgent task for OFD. This revealed the necessity to provide consumers with immediate remedies or compensations, helping them enjoy their meals in the shortest possible time. For instance, if a store cancels an order without explanation, the platform could leverage advanced algorithms to generate a list of alternative stores that offer similar meals and ensure prompt delivery to the customer's location. Additionally, the platform is advised to consider offering discounts or complimentary compensation to alleviate any inconvenience caused by the service failure and save the customer the effort of seeking alternative meal options. Such measures can not only help restore the customer's trust and satisfaction but also motivate the customer to continue using the platform.

Finally, OFD should optimize its ordering procedure to align with the process used by general e-commerce websites. Common functions found on general e-commerce websites should be integrated into the platform. This can help reduce customers' effort in spending on searching for meals, increase their satisfaction and trust, and ultimately foster continued usage of the platform.

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