DECODING DIGITAL LOYALTY: HOW SERVICE QUALITY, PLATFORM PERFORMANCE, AND MENU DIVERSITY SHAPE TRUST, SATISFACTION, AND RETENTION IN ONLINE PLATFORMS?

Patipol Homyamyen
Waiphot Kulachai [1]
Khwanta Benchakhan
Junphen Wannarak

A B S T R A C T

This quantitative study utilized Structural Equation Modeling (SEM) via Smart PLS to analyze data from 199 participants, exploring relationships between service quality, platform performance, menu diversity, trust, and customer satisfaction on online platforms. Contrary to typical findings that service quality and platform performance significantly drive trust and satisfaction, our study found no substantial direct effects from these factors. Instead, menu diversity was confirmed to enhance both trust and satisfaction, suggesting its continued relevance in securing user loyalty. The research also highlighted trust's mediating role between service quality and satisfaction, emphasizing its importance in digital consumer relationships. With shifting consumer expectations, platforms are advised to reevaluate service metrics, emphasize menu diversity, and use analytics to adapt to user preferences. Future research should consider expanding demographic diversity and employing mixed methods to better understand the evolving dynamics of online consumer engagement.

1. INTRODUCTION

The proliferation of online food delivery services has transformed the way consumers access food services, making the understanding of what drives user satisfaction and loyalty more critical than ever. This transformation has prompted a surge in scholarly interest to identify the factors contributing to trust formation, user satisfaction, and sustained usage. Notably, service quality, platform performance, and menu diversity have emerged as pivotal elements in shaping consumer behavior within this digital landscape. Recent studies underscore the significance of service quality, which encompasses aspects such as service worker interaction, platform quality, and content consistency, in fostering trust and satisfaction among consumers, thereby influencing their continuous usage intentions (Wang et al., 2021). Moreover, the role of platform performance, especially in terms of assurance, maintenance of meal quality and hygiene, reliability, security, and system operation, has been identified as crucial in determining customer satisfaction and loyalty, highlighting the multifaceted nature of user experiences with online food delivery services (Koay et al., 2022). Furthermore, the diversity of the menu offered by online food delivery platforms plays a vital role in attracting and retaining users by catering to a wide range of dietary preferences and needs, thus directly impacting user satisfaction and their intention to

[1]Corresponding author: Waiphot Kulachai
Email: waiphot.ku@ssru.ac.th

reuse the service (Annaraud & Berezina, 2020). This body of research illustrates the dynamic interplay between service quality, platform performance, and menu diversity in engendering trust, which subsequently catalyzes user satisfaction and sustains usage intentions among consumers of online food delivery services. This study seeks to extend the existing literature by employing Structural Equation Modeling (SEM) to quantitatively analyze the influence of these factors on trust formation, user satisfaction, and sustained usage. Through this methodological approach, we aim to provide a comprehensive understanding of the mechanisms through which service quality, platform performance, and menu diversity contribute to the overall user experience and loyalty in the context of online food delivery services.

2. LITERATURE REVIEW

2.1 Service Quality

Recent studies highlight the critical role of service quality in building consumer trust and satisfaction in online platforms, revealing a nuanced relationship influenced by factors such as system and information quality. Mou and Cohen (2017) demonstrate that early-stage trust, shaped by perceptions of service quality, significantly impacts later stage trust, satisfaction, and usage intentions in online health services. Similarly, Rita et al. (2019) found that dimensions of e-service quality, including website design and security/privacy, directly affect customer behavior and satisfaction, suggesting the importance of both utilitarian and hedonic aspects in fostering consumer relationships online. Arcand et al. (2017) further elucidate that dimension of mobile banking service quality, such as security/privacy and enjoyment, significantly influence the quality of customer relationships, emphasizing the interplay between service quality, trust, and satisfaction in sustaining user engagement and loyalty. These studies collectively underscore the imperative for online platforms to maintain high service quality standards across all dimensions to enhance consumer trust, satisfaction, and loyalty. Drawing upon these empirical insights, it becomes apparent that service quality serves not only as a direct antecedent to trust and satisfaction but also as a strategic lever for digital platforms aiming to enhance user engagement and loyalty. Therefore, it is hypothesized that:

H1: Service quality significantly influences trust formation among users of online platforms, where higher perceived service quality leads to greater trust in the platform.

H2: Service quality significantly influences customer satisfaction, with superior service quality yielding higher levels of user satisfaction.

These hypotheses aim to further delineate the role of service quality in the digital consumer's journey, proposing that a robust framework of service quality is indispensable for fostering trust and satisfaction, which

are crucial for the sustained success of online platforms. The verification of these hypotheses could provide actionable insights for e-commerce strategists and platform designers, emphasizing the importance of investing in and prioritizing comprehensive service quality improvements to secure a competitive advantage in the increasingly crowded digital marketplace.

2.2 Platform Performance

The performance of online platforms, characterized by attributes such as ease of use, reliability, efficiency, and privacy, plays a crucial role in determining user satisfaction and trust, which are essential for the sustained success of e-commerce and digital services. For instance, Top and Ali (2021) underscored the importance of efficiency, fulfillment, system availability, and privacy in enhancing customer satisfaction within online meeting platforms, highlighting the direct correlation between platform performance attributes and user satisfaction levels. Similarly, Chen et al. (2020) found that platform availability significantly influences user satisfaction in online education platforms during the COVID-19 pandemic, indicating the paramount importance of reliable and accessible platform services in ensuring user satisfaction and engagement. Furthermore, Kim (2021) demonstrated that various dimensions of platform quality, including service quality aspects identified by the SERVQUAL model, significantly affect user satisfaction and loyalty towards online platforms. These findings suggest that the performance and quality of online platforms are integral to building and maintaining user trust and satisfaction, leading to sustained platform engagement and loyalty. Therefore, it becomes evident that enhancing platform performance not only fulfills immediate user needs but also fosters a trusting and satisfying relationship between users and platforms, underpinning the long-term success of digital services. Based on the empirical evidence underscoring the significance of platform performance attributes—such as efficiency, system availability, and privacy—on user satisfaction and trust in digital platforms, two hypotheses can be formulated to further investigate the dynamics between platform performance, user satisfaction, and trust:

H3: Platform performance, characterized by attributes such as efficiency, reliability, and privacy, significantly influences user satisfaction in online platforms. Users perceiving higher platform performance are more likely to report increased levels of satisfaction.

H4: Platform performance significantly influences trust formation among users of online platforms. Enhanced platform performance, particularly in terms of reliability and privacy, positively correlates with greater trust from the users towards the platform.

These hypotheses aim to empirically validate the theoretical assertions that platform performance plays a pivotal role in cultivating a favorable user experience, which in turn, is essential for building user trust and satisfaction. The confirmation of these hypotheses would

provide valuable insights for platform developers and managers in strategizing enhancements to platform features and functionalities, thereby fostering a more engaging and trustworthy digital environment for users.

2.3 Menu Diversity

The diversity of menus offered by online food delivery platforms plays a significant role in shaping customer satisfaction and trust, as it addresses a wide range of tastes and dietary preferences. For instance, Zhang and Sun (2020) demonstrated that service quality aspects such as performance, privacy, interactivity, compensation, and especially diversity of service quality, have a positive impact on customer loyalty, with customer satisfaction serving as a crucial mediator. This underscores the importance of menu diversity in not only meeting customer expectations but also in fostering a sense of trust and satisfaction that ultimately drives loyalty. Moreover, Zhou and Xing (2022) found that delivery quality, timeliness, reliability, and the breadth of food options available are critical in enhancing customer satisfaction and trust, which are pivotal in customers' decision to repurchase. This highlights how varied and quality-driven menu options contribute to the perceived value of the service, reinforcing the trust in and satisfaction with the platform. These findings suggest that a diverse and high-quality menu offering is essential for online food delivery platforms aiming to cultivate customer loyalty through enhanced satisfaction and trust. Therefore, it can be hypothesized that:

H5: Menu diversity in online food delivery platforms significantly influences customer satisfaction by catering to a wide range of dietary preferences and needs.

H6: Menu diversity significantly influences trust formation among users of online food delivery platforms, with a varied menu offering being perceived as more reliable and customer-centric.

Such hypotheses invite further investigation into how online food delivery services can strategically enhance their menu offerings to meet diverse customer needs, thereby improving satisfaction, trust, and ultimately customer loyalty in the competitive online marketplace.

2.4 Trust Formation and Customer Satisfaction

Trust formation plays a significant role in enhancing customer satisfaction and loyalty, particularly in online contexts where direct physical interactions are absent. Studies indicate that trust in online platforms, influenced by factors such as service quality, privacy, and user experience, directly impacts customer satisfaction and behavioral intentions. For instance, Luo et al. (2021) explored trust formation on peer-to-peer lodging platforms and found that customer flow experience is an antecedent of economy-based trust, suggesting that satisfying online experiences contribute to the development of trust. This hierarchical organization of trust—from economy-based to identification-based—underscores the complex nature of trust formation in digital platforms and its crucial role in fostering user satisfaction and loyalty. Furthermore, Thakur (2018)

investigated the mediating role of customer engagement between satisfaction and online review intentions, highlighting the importance of trust in facilitating positive customer actions online. The study illustrates how engaged customers, who trust a platform, are more likely to express satisfaction through online reviews, thereby influencing the perceptions of potential customers. Barreda et al. (2015) examined the relationship between trust, satisfaction, behavioral intentions, and word-of-mouth (WOM) in online social networks. The study confirmed trust as a vital component in the marketing strategies of online platforms, suggesting that trust significantly influences user satisfaction, which in turn affects brand loyalty and WOM in digital environments. These studies collectively affirm the critical role of trust in not only ensuring customer satisfaction but also in enhancing the likelihood of positive WOM and repurchase intentions. Therefore, it can be hypothesized that:

H7: Trust in online platforms significantly mediates the relationship between service quality and customer satisfaction, where higher levels of trust result in greater customer satisfaction and loyalty.

This hypothesis aims to underline the importance of trust in the digital commerce landscape, suggesting that online platforms should prioritize building trust through high-quality services to enhance customer satisfaction and encourage loyal behaviors.

2.5 Customer Satisfaction and Sustained Usage

Customer satisfaction plays a pivotal role in the sustained usage of online platforms, shaping the long-term engagement and loyalty of users. For example, Figalist et al. (2020) emphasized the importance of continuous assessment of customer satisfaction in B2B contexts, proposing a model that combines service quality and web usage metrics to automatically calculate customer satisfaction scores. This approach allows for a deeper understanding of the relationship between satisfaction and sustained usage without requiring active customer participation, highlighting the role of analytics in maintaining high satisfaction levels for long-term platform engagement. Moreover, Top and Ali (2021) found that service quality aspects like efficiency, fulfillment, system availability, and privacy significantly impact customer satisfaction on online meeting platforms, underscoring the necessity of high service quality for the continued use of such platforms. Similarly, Tseng (2015) explored the intention to continue using web-based self-services, revealing that users' perceived usefulness and quality features of a service positively affect their continued usage intentions through enhanced satisfaction. These studies illustrate the critical connection between customer satisfaction and the continued use of online platforms. They suggest that satisfaction derived from high-quality service experiences leads to sustained engagement with the platform. Hence, it can be hypothesized that:

H8: *Customer satisfaction significantly influences the sustained usage of online platforms, where higher levels of satisfaction lead to increased long-term engagement and loyalty.*

This hypothesis suggests a direct link between how satisfied customers are with an online service and their willingness to continue using it over time. Validating this hypothesis could provide valuable insights for online platform managers aiming to enhance customer retention and loyalty by prioritizing satisfaction.

3. METHODOLOGY

3.1 Participants
This present study involved 199 participants who utilize online food delivery services in Bangkok, with the data being collected through an online survey. The demographic breakdown revealed a diverse sample in terms of gender, with the majority being female (57.29%), followed by male (37.69%), and a smaller proportion identifying as LGBTQIA+ (5.03%). The participants predominantly reported being single (66.33%), with married individuals constituting 31.66% and a minimal segment being divorced or separated (2.01%). In terms of service usage frequency, the majority of respondents use food delivery services monthly (51.76%), followed by weekly (40.70%), and a small fraction daily (7.54%). The data also showcased a varied preference for food delivery platforms among Bangkok users; Line Man was the most popular choice (42.21%), followed by Grab (28.64%), Food Panda (23.62%), and Robinhood (5.53%). This distribution of preferences not only reflects the competitive landscape of food delivery services in Bangkok but also underscores the diverse demographics and usage patterns of online food delivery service users in the city as illustrated in Table 1.

Table 1. Demographic characteristics

Characteristics	Frequency	%
Gender		
Male	75	37.69%
Female	114	57.29%
LGBTQIA+	10	5.03%
Marital status		
Single	132	66.33%
Married	63	31.66%
Divorced/Separated	4	2.01%
Frequency of using food delivery services		
Every day	15	7.54%
Every week	81	40.70%
Every month	103	51.76%
Food delivery platform		
Grab	57	28.64%
Line Man	84	42.21%
Food Panda	47	23.62%
Robinhood	11	5.53%

3.2 Measures
This study utilizes distinct scales to measure various aspects of online food delivery services. Service Quality (SQ) is assessed through items like order accuracy and effective customer service, with a high internal consistency (Cronbach's alpha .959). Platform Performance (PP) evaluates user experience regarding the app's usability and reliability, reflected in a Cronbach's alpha of .936. Menu Diversity (MD) is measured by the variety and innovation of the menu offerings, demonstrating a Cronbach's alpha of .950. Trust Formation (TF) captures users' trust in the app's integrity and data security, scoring a Cronbach's alpha of .954. Customer Satisfaction is gauged through users' overall contentment with the service, with a Cronbach's alpha of .946. Lastly, Sustained Use investigates users' continued engagement and loyalty to the platform, indicated by a Cronbach's alpha of .929. Each scale targets specific facets of the consumer experience, crucial for understanding the dynamics of customer engagement in digital platforms.

3.3 Data Collection
In the study, data was collected through an online survey conducted from December 2023 to March 2024. This method was chosen for its broad reach and the convenience it offers to participants, allowing for the collection of a wide variety of user experiences. The survey, disseminated across multiple online platforms such as social media, email newsletters, and directly through the food ordering applications when feasible, aimed to ensure a diverse respondent pool. A total of 199 complete questionnaires were received, each providing valuable insights into aspects such as user satisfaction, platform performance, menu diversity, trust formation, and the likelihood of sustained use. The data collection phase was critical for capturing comprehensive user feedback, which is essential for analyzing the determinants of customer satisfaction and loyalty within the context of online food delivery services.

3.4 Data Analysis
For the analysis of the data gathered from the online survey concerning user engagement with online food ordering applications, Structural Equation Modeling (SEM) was employed, utilizing Smart PLS (Partial Least Squares) software. This methodological choice aligns with recommendations by Hair et al. (2017) for its efficacy in analyzing complex relationships between multiple variables, rendering it particularly apt for investigating the intricate interplay of user satisfaction, platform performance, menu diversity, trust formation, and sustained usage within the online food delivery sector. Employing Smart PLS allowed for the construction of a path model to assess both direct and indirect effects among the studied variables, thus offering detailed insights into the relationships' strengths and significances (Ringle et al., 2020). This approach is noted for its robustness in handling smaller sample sizes and its non-reliance on normal data distribution, ensuring the

reliability and validity of our analysis despite the inherent challenges of online survey data (Henseler et al., 2016). Through SEM analysis with Smart PLS, we meticulously explored the hypothesized relationships between each variable. This included how service quality, platform performance, and menu diversity directly impact user trust and satisfaction, subsequently influencing the probability of the platform's sustained use (Hair et al., 2017). The SEM technique also enabled the identification of mediating variables within the model, providing a nuanced understanding of the drivers of user behavior and attitudes towards online food ordering platforms (Henseler et al., 2016). This step is critical for extracting actionable insights to inform enhancement strategies aimed at improving user experiences and nurturing loyalty in the highly competitive online food delivery market.

3.5 Ethical Considerations

In conducting this study on user engagement with online food ordering applications, strict adherence to ethical standards was paramount. Prior to data collection, participants were informed about the study's purpose, the voluntary nature of their participation, and their right to withdraw at any time without penalty. Informed consent was obtained from all participants, emphasizing confidentiality and anonymity in the handling of their responses. The online survey was designed to collect data without identifying information to protect participants' privacy. Additionally, data storage and analysis procedures were conducted securely, with access restricted to the research team, to uphold the integrity of the data and the privacy of the participants. This ethical framework underscores the commitment to respecting the dignity, rights, and welfare of all participants throughout the research process.

4. RESULTS

4.1 Assessment of the Smart PLs SEM Outer Model

Evaluating the measurement model in SmartPLS Structural Equation Modeling (SEM) is a pivotal phase that guarantees the constructs within the SEM framework are measured with reliability and validity (Hair et al., 2017).

Table 2. Measurement Model Assessments

Item	Loadings	VIF	α	C.R.	AVE
Service Quality (SQ)			0.960	0.961	0.827
SQ1	0.852	3.287			
SQ2	0.928	4.528			
SQ3	0.912	5.642			
SQ4	0.936	6.661			
SQ5	0.918	6.289			
Platform Performance (PP)			0.936	0.938	0.746
PP1	0.879	3.543			
PP2	0.829	3.183			
PP3	0.887	3.663			
PP4	0.803	3.131			
PP5	0.917	4.670			
Menu Diversity (MD)			0.950	0.951	0.793
MD1	0.853	4.327			
MD2	0.864	3.414			
MD3	0.926	5.318			
MD4	0.897	3.316			
MD5	0.911	4.670			
Trust Formation (TF)			0.955	0.957	0.812
TF1	0.916	6.703			
TF2	0.883	4.431			
TF3	0.930	9.562			
TF4	0.828	3.767			
TF5	0.942	6.836			
Customer Satisfaction (CS)			0.947	0.947	0.782
CS1	0.881	3.955			
CS2	0.872	4.344			
CS3	0.866	4.461			
CS4	0.912	5.425			
CS5	0.889	4.217			
Sustained Use (SU)			0.929	0.930	0.725
SU1	0.791	2.767			
SU2	0.841	2.919			
SU3	0.873	3.591			
SU4	0.869	3.738			
SU5	0.879	3.341			

This assessment covers several crucial elements: Indicator Reliability, which suggests item loadings on their respective constructs should be 0.7 or above to confirm adequate reliability (Henseler et al., 2009); Construct Reliability, determined by measures such as Cronbach's alpha and Composite Reliability (CR), where values greater than 0.7 indicate good internal consistency (Nunnally, 1978); Convergent Validity, established when the Average Variance Extracted (AVE) is 0.5 or above, indicating the construct captures a significant proportion of the variance of its indicators (Fornell & Larcker, 1981); Discriminant Validity, ensuring constructs are sufficiently distinct, evaluated using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio, with HTMT values preferably below 0.9 (Henseler et al., 2015); Cross Loadings, ensuring indicators load more significantly on their intended construct than on others; and assessing Collinearity through the Variance Inflation Factor (VIF), with values not exceeding 5 to mitigate collinearity concerns (Hair et al., 2017). These procedures together affirm the robustness of the measurement model, providing a solid basis for further examination of the structural relations within the SEM. The findings from this evaluation are detailed in Tables 2, 3, and 4.

In the quantitative assessment of the measurement model presented in Table 2, a meticulous evaluation was conducted using SmartPLS to ascertain the reliability and validity of constructs central to understanding user engagement with online food ordering platforms—namely, Service Quality (SQ), Platform Performance (PP), Menu Diversity (MD), Trust Formation (TF), Customer Satisfaction (CS), and Sustained Use (SU). Indicator loadings, exceeding the threshold of 0.7, confirmed the robustness of item-construct associations, with values ranging from 0.791 to 0.942 across the constructs, thereby indicating strong indicator reliability. The Variance Inflation Factor (VIF) values, predominantly below the threshold of 5, with exceptions like SQ4 (6.661) and TF3 (9.562), hinted at the presence of multicollinearity for specific indicators, necessitating further examination. Construct reliability was exceptionally affirmed with Cronbach's Alpha (α) and Composite Reliability (C.R.) values, both surpassing the 0.7 benchmark, illustrating exemplary internal consistency—Service Quality, for instance, reported α of 0.960 and C.R. of 0.961. Convergent validity was established through the Average Variance Extracted (AVE) metrics, all exceeding the 0.5 criterion, signifying those constructs adequately captured the variance of their indicators. This comprehensive validation process ensures that the constructs are measured with high reliability and validity, facilitating robust Structural Equation Modeling (SEM) analysis to elucidate the intricate relationships between these constructs within the context of online food delivery service utilization, thereby adhering to stringent statistical and academic standards.

Table 3. Cross Loadings

	SQ	PP	MD	TF	CS	SU
SQ1	**0.852**	0.818	0.767	0.751	0.749	0.767
SQ2	**0.928**	0.826	0.798	0.829	0.806	0.833
SQ3	**0.912**	0.850	0.803	0.794	0.813	0.828
SQ4	**0.936**	0.893	0.827	0.798	0.850	0.847
SQ5	**0.918**	0.876	0.814	0.792	0.825	0.834
PP1	0.867	**0.879**	0.820	0.777	0.784	0.809
PP2	0.772	**0.829**	0.773	0.713	0.759	0.815
PP3	0.818	**0.887**	0.782	0.794	0.782	0.802
PP4	0.777	**0.803**	0.745	0.698	0.728	0.735
PP5	0.817	**0.917**	0.842	0.806	0.823	0.839
MD1	0.766	0.795	**0.853**	0.760	0.812	0.750
MD2	0.797	0.830	**0.864**	0.793	0.799	0.776
MD3	0.789	0.818	**0.926**	0.831	0.875	0.867
MD4	0.777	0.795	**0.897**	0.836	0.817	0.836
MD5	0.799	0.848	**0.911**	0.820	0.859	0.861
TF1	0.788	0.808	0.822	**0.916**	0.875	0.831
TF2	0.784	0.784	0.791	**0.883**	0.837	0.801
TF3	0.838	0.848	0.837	**0.930**	0.872	0.904
TF4	0.683	0.673	0.768	**0.828**	0.796	0.836
TF5	0.827	0.832	0.868	**0.942**	0.882	0.906
CS1	0.767	0.798	0.803	0.818	**0.881**	0.886
CS2	0.770	0.788	0.831	0.834	**0.872**	0.851
CS3	0.786	0.773	0.816	0.829	**0.866**	0.844
CS4	0.813	0.799	0.835	0.895	**0.912**	0.891
CS5	0.799	0.813	0.851	0.808	**0.889**	0.884
SU1	0.748	0.768	0.744	0.781	0.779	**0.791**
SU2	0.764	0.743	0.765	0.785	0.828	**0.841**
SU3	0.798	0.828	0.805	0.845	0.860	**0.873**
SU4	0.816	0.835	0.823	0.827	0.856	**0.869**
SU5	0.724	0.768	0.776	0.806	0.866	**0.879**

Table 3 presents the Cross Loadings for the constructs of Service Quality (SQ), Platform Performance (PP), Menu Diversity (MD), Trust Formation (TF), Customer Satisfaction (CS), and Sustained Use (SU) within the context of an online food delivery service study. Cross loadings are critical in assessing discriminant validity, ensuring that items or indicators are more strongly associated with their respective constructs than with any other construct in the model. Each row represents an item (e.g., SQ1, PP1) and shows how strongly that item loads on each construct (e.g., SQ, PP, MD, TF, CS, SU). Ideally, an item should load most strongly on its own construct, with lower loadings on other constructs. For example, item SQ1 shows the highest loading on the SQ construct (.852) compared to its loadings on PP (.818), MD (.767), TF (.751), CS (.749), and SU (.767), which supports the item's discriminant validity. The table 3 reveals that, generally, items load most significantly on their intended constructs, which indicates good discriminant validity across the board. For instance, all TF items (TF1 to TF5) show their highest loadings on the TF construct, with TF5 displaying a particularly strong association (.942). Similarly, MD items show higher loadings on the MD construct, with MD3 exhibiting a high loading of .926. This pattern is consistent across all constructs, suggesting that each item adequately measures its intended construct, with minimal cross-construct contamination. However, the closeness of some loadings, such as SQ4's loading on PP (.893) being relatively close to its own construct loading (.936), suggests areas where further investigation might be warranted to ensure the utmost clarity and separation between constructs. Overall, Table 3's cross-loading analysis effectively demonstrates a strong level of discriminant validity within the measurement model, indicating that the constructs are well-defined and distinct from one another. This robustness is crucial for the integrity of subsequent SEM analysis, ensuring that the relationships explored are between clearly delineated constructs, thereby enhancing the study's contributions to understanding user engagement with online food delivery platforms.

Table 4. Discriminant Validity Calculations

	AVEs Scores						HTMT Scores					
	1	2	3	4	5	6	1	2	3	4	5	6
1-CS	**0.884**											
2-MD	0.935	**0.890**					0.935					
3-PP	0.898	0.918	**0.864**				0.898	0.918				
4-SQ	0.890	0.882	0.938	**0.909**			0.890	0.883	0.939			
5-SU	0.985	0.920	0.926	0.904	**0.851**		0.985	0.919	0.927	0.905		
6-TF	0.947	0.908	0.878	0.872	0.950	**0.901**	0.947	0.908	0.876	0.872	0.952	

Note: bold values are squared AVE values.

Table 4 meticulously delineates the discriminant validity assessments of the constructs within the study's SEM framework, employing both Average Variance Extracted (AVEs) and Heterotrait-Monotrait (HTMT) ratios as evaluative metrics (Fornell & Larcker, 1981; Henseler, Ringle, & Sarstedt, 2015). The AVEs scores, representing the proportion of variance captured by a construct versus the variance due to measurement error, surpass the critical threshold of 0.5 across all constructs (e.g., CS: 0.884, MD: 0.935), with the square roots of these values (bolded) significantly exceeding inter-construct correlations, thereby satisfying Fornell and Larcker's (1981) criteria for discriminant validity. Concurrently, the HTMT ratios, a modern criterion for discriminant validity assessment, uniformly remain below the 0.90 benchmark (e.g., CS to MD: 0.890, PP to SQ: 0.938), aligning with Henseler et al.'s (2015) recommendations and further substantiating the constructs' distinctiveness. This dual-faceted validation approach robustly confirms discriminant validity within the SEM analysis, ensuring each construct distinctly contributes to the overarching understanding of user engagement with online food delivery platforms, thereby enhancing the study's academic rigor and the validity of its conclusions.

4.2 Evaluation of the SmartPLs SEM Structural Model
In this study, bootstrapping analysis was conducted to rigorously examine the proposed relationships within the structural model, employing a technique that generates random subsamples from the original data to analyze variability thoroughly. This method, integral to Partial Least Squares (PLS) path modeling, involves repeatedly estimating model parameters across up to 5,000 subsamples to ensure the reliability of findings beyond the peculiarities of the initial sample. Such an approach is instrumental for deriving standard errors and, subsequently, t-values, p-values, and confidence intervals for the PLS-Structural Equation Modeling (SEM) results, facilitating a statistically robust assessment of the hypothesized linkages. The results of this analysis, crucial for validating the research hypotheses, are detailed in Figure 1 and Table 5, providing both visual and quantitative evidence to support the investigation's theoretical framework. This concise yet thorough bootstrapping process underpins the study's findings with statistical validity, enabling a grounded evaluation of the hypothesized dynamics, as underscored by Hair et al. (2021), thereby enriching the academic discourse on the subject matter explored.
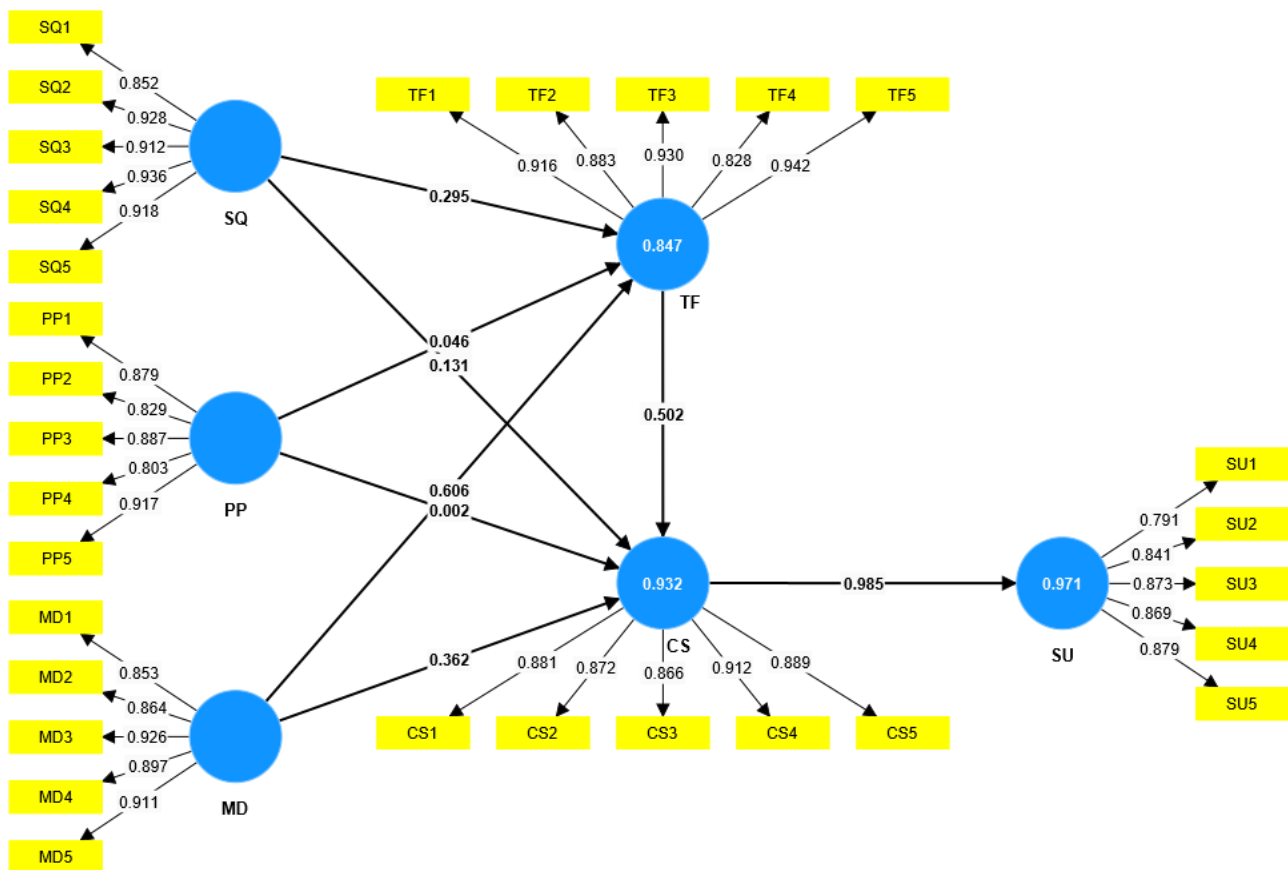
Figure 1. The SEM Model.

Table 5. Relationship between Variables and Hypothesis Testing

Relationship	β	Standard Deviation	t-Statistics	*p*-Value	Hypothesis
SQ --> TF	0.295	0.183	1.609	0.108	H1: Not supported
SQ --> CS	0.131	0.207	0.631	0.528	H2: Not supported
PP --> CS	0.002	0.282	0.009	0.993	H3: Not supported
PP --> TF	0.046	0.241	0.190	0.849	H4: Not supported
MD --> CS	0.362	0.164	2.201	0.028	H5: Supported
MD --> TF	0.606	0.161	3.764	0.000	H6: Supported
TF --> CS	0.502	0.121	4.155	0.000	H7: Supported
CS --> SU	0.985	0.012	82.759	0.000	H8: Supported

The comprehensive analysis encapsulated in Table 5 elucidates the intricate relationships among Service Quality (SQ), Trust Formation (TF), Platform Performance (PP), Menu Diversity (MD), Customer Satisfaction (CS), and Sustained Use (SU) within the online food delivery service domain. Notably, the hypotheses suggesting direct relationships between Service Quality and Platform Performance with Trust Formation and Customer Satisfaction (H1, H2, H3, H4) did not receive empirical support, as indicated by their β coefficients (H1: 0.295, H2: 0.131, H3: 0.002, H4: 0.046) and non-significant p-values (H1: p=0.108, H2: p=0.528, H3: p=0.993, H4: p=0.849), pointing to the insufficiency of these factors alone in enhancing trust or satisfaction within this context. Conversely, Menu Diversity's impact on Trust Formation and Customer Satisfaction (H5, H6)

was statistically validated, with β coefficients of 0.362 and 0.606 respectively, and significant p-values (H5: p=0.028, H6: p<0.001), underscoring the vital role of a varied menu in satisfying diverse consumer tastes and fostering platform loyalty. Further, the relationship between Trust Formation and Customer Satisfaction (H7) was strongly supported (β=0.502, p<0.001), as was the link between Customer Satisfaction and Sustained Use (H8), evidenced by an exceptionally high β coefficient of 0.985 and a p-value of less than 0.001. These findings highlight the foundational importance of trust in driving satisfaction, which in turn, significantly influences continued engagement with the platform. This analysis, enriched with critical statistical validations, accentuates the strategic importance of enhancing menu diversity and fostering trust as pivotal mechanisms for amplifying

customer satisfaction and securing sustained user engagement in the competitive online food delivery marketplace.

5. DISCUSSION

The discrepancy between the established literature and the findings of the present study, where no significant relationship between service quality and both trust formation and customer satisfaction were observed, challenges conventional understanding and warrants a deeper exploration into evolving consumer behaviors and expectations in the digital realm. The literature strongly supports the idea that service quality is a foundational element in building trust and satisfaction among online platform users, with studies by Mou and Cohen (2017), Rita et al. (2019), and Arcand et al. (2017) highlighting the direct impact of various dimensions of service quality on consumer relationships online. However, the absence of these relationships in the current study's findings may reflect a shift in user priorities or the saturation of high-quality services to a point where they no longer serve as distinctive factors for enhancing user engagement and loyalty. This divergence could suggest that as digital platforms become increasingly integrated into daily life and user experiences with these platforms mature, other elements—perhaps personalization, innovation, or community engagement—may emerge as more significant in influencing trust and satisfaction. The ubiquitous nature of high service quality in today's digital marketplace might have led to a recalibration of user expectations, rendering service quality as a basic expectation rather than a unique selling proposition. Moreover, external influences such as brand reputation, social endorsements, and marketing efforts might play a more pivotal role in shaping user perceptions of trust and satisfaction, potentially diminishing the direct impact of service quality. Additionally, methodological differences between studies, including variations in demographic focus, platform types, and the operationalization of constructs, could contribute to the observed outcomes.

The present study's findings, indicating no significant influence of platform performance on trust formation and customer satisfaction, present an intriguing deviation from established research that emphasizes the critical role of platform performance attributes in enhancing user satisfaction and trust. This divergence from studies by Top and Ali (2021), Chen et al. (2020), and Kim (2021), which collectively highlight the significance of efficiency, system availability, and privacy in bolstering user satisfaction and loyalty, suggests a complex and possibly evolving landscape of user expectations and platform engagement dynamics. The lack of observed influence might signal a shift in the determinants of trust and satisfaction, where other factors, possibly user experience personalization, content relevance, or even social influence, may have risen in importance, overshadowing traditional performance metrics. Alternatively, it could indicate that users now view high

performance as a baseline expectation, a non-negotiable standard that, while necessary, is no longer a differentiating factor in driving satisfaction or trust on its own. This scenario underscores the necessity for online platforms to continuously innovate and exceed the conventional benchmarks of performance to maintain and enhance user engagement and loyalty in an increasingly competitive digital environment.

In addition, the present study's findings, affirming the impact of menu diversity on both trust formation and customer satisfaction, align with the existing literature that underscores the importance of catering to diverse dietary preferences in enhancing user engagement with online food delivery platforms. Zhang and Sun (2020) and Zhou and Xing (2022) have previously highlighted how aspects such as menu diversity, alongside delivery quality and reliability, significantly contribute to building customer loyalty, with satisfaction acting as a mediator. This concurrence suggests that menu diversity is not merely a feature but a critical determinant of perceived service quality that influences users' trust and satisfaction levels. The positive correlation between a diverse menu offering and trust formation suggests that when platforms provide a wide range of food options, they are perceived as more attentive and responsive to customer needs, thereby being seen as more reliable and trustworthy. Similarly, the influence of menu diversity on customer satisfaction underscores the notion that the ability to meet or exceed a broad spectrum of dietary expectations is key to fostering positive user experiences. Therefore, this study's findings further substantiate the pivotal role of menu diversity in the online food delivery sector, emphasizing that a comprehensive and varied menu is indispensable for cultivating trust and satisfaction, thereby driving customer loyalty and sustained platform use.

Furthermore, the present study's findings, illustrating a positive relationship between trust and the mediation of service quality on customer satisfaction and loyalty, resonate with the broader narrative established by Luo et al. (2021), Thakur (2018), and Barreda et al. (2015), emphasizing the indispensable role of trust in online platforms. This relationship underscores the intricate mechanisms through which trust, cultivated by factors such as high service quality, privacy, and enriching user experiences, serves as a critical fulcrum enhancing customer satisfaction and loyalty in digital contexts. Specifically, the study supports the concept that trust not only directly influences customer satisfaction but also acts as a mediator that amplifies the positive effects of service quality on satisfaction and, by extension, loyalty. This hierarchical model of trust, from economy-based to identification-based, as outlined by Luo et al. (2021), highlights the complex and multifaceted process of trust formation in digital platforms. Furthermore, the findings suggest that trust can facilitate positive customer actions, such as online reviews, which Thakur (2018) identified as a key mechanism through which satisfied and engaged customers contribute to the platform's reputation and attract potential users. In essence, the present study

substantiates the argument that trust is a cornerstone in the architecture of customer relationships online, serving not only to elevate direct satisfaction from service quality but also to foster a loyal customer base through enhanced satisfaction and positive word-of-mouth, aligning with the conceptual frameworks proposed in the referenced literature.

Finally, the present study's findings, which confirm a significant influence of customer satisfaction on the sustained usage of online platforms, align seamlessly with prior research emphasizing the importance of satisfaction in fostering long-term user engagement and loyalty (Figalist et al., 2020; Top and Ali, 2021; Tseng, 2015). This correlation underscores the pivotal role of customer satisfaction, cultivated through high-quality service attributes such as efficiency, system reliability, and privacy, in ensuring the longevity of platform-user relationships. Specifically, the study corroborates the model proposed by Figalist et al. (2020), which integrates service quality and web usage metrics for an automated satisfaction assessment, thereby highlighting the utility of analytics in understanding and enhancing user satisfaction for sustained platform engagement. Additionally, the findings resonate with Top and Ali's (2021) discovery of the direct impact of service quality on customer satisfaction within online meeting platforms, as well as Tseng's (2015) exploration of the positive effects of perceived usefulness and service quality on users' intentions to continue using web-based services. Collectively, these studies and the present research illustrate that customer satisfaction, driven by the comprehensive quality of service experiences, is a critical determinant of continued platform usage and user loyalty, reinforcing the necessity for online platforms to prioritize and continually improve service quality to maintain and enhance user satisfaction and, consequently, sustain user engagement and loyalty over time.

6. CONCLUSION

In conducting this quantitative investigation with data from 199 participants, utilizing Structural Equation Modeling (SEM) via Smart PLS, the study aimed to dissect the intricate relationships between service quality, platform performance, menu diversity, trust formation, and customer satisfaction within online platforms. Contrary to the traditional assertions emphasized in existing literature—such as the works of Mou and Cohen (2017), Rita et al. (2019), and Arcand et al. (2017) — which advocate for the pivotal role of service quality and platform performance in nurturing trust and satisfaction among users, the present findings present an intriguing anomaly. Notably, our analysis revealed no significant direct influence of service quality and platform

performance on trust formation or customer satisfaction, potentially signaling a paradigm shift in consumer expectations. This shift may incline towards a greater valuation of personalization, innovation, and community engagement, suggesting these aspects now overshadow the conventional metrics of service quality and platform performance. Interestingly, our findings resonate with the broader narrative on the importance of menu diversity, as underscored by Zhang and Sun (2020) and Zhou and Xing (2022), confirming its critical role in bolstering trust and customer satisfaction. This underlines the strategic imperative for online food delivery platforms to offer a broad and diverse menu that caters to the myriad of dietary preferences and needs, thus fostering a more profound sense of reliability and attentiveness towards customer needs—ultimately driving loyalty. Additionally, the positive correlation identified between trust and the mediation effect of service quality on customer satisfaction and loyalty aligns with previous research, reinforcing trust as an essential cornerstone in the architecture of online consumer relationships. Given these nuanced insights, it becomes paramount for online platforms to recalibrate their strategies, moving beyond traditional service quality and performance benchmarks to incorporate elements that resonate more closely with current user expectations, such as enhanced personalization and innovative service offerings. Furthermore, acknowledging the critical role of menu diversity could serve as a key differentiator in cultivating customer loyalty and trust. Nonetheless, this study's limitations, including its demographic scope and the methodological focus on SEM, suggest a need for broader, more diverse research endeavors and potentially the adoption of mixed-method approaches to capture the evolving dynamics of consumer-platform engagement comprehensively. Future research directions could thus focus on expanding the diversity of study participants, integrating qualitative insights to supplement quantitative findings, and staying attuned to the fast-paced changes in digital consumer behaviors, aiming to provide a holistic understanding of the factors that drive satisfaction and loyalty in the digital age.

References:

Annaraud, K., & Berezina, K. (2020). Predicting satisfaction and intentions to use online food delivery: What really makes a difference? *Journal of Foodservice Business Research, 23*(4), 305 - 323. DOI: 10.1080/15378020.2020.1768039

Arcand, M., PromTep, S., Brun, I., & Rajaobelina, L. (2017). Mobile banking service quality and customer relationships. *International Journal of Bank Marketing, 35*(7), 1068-1089. DOI: 10.1108/IJBM-10-2015-0150

Barreda, A., Bilgihan, A., & Kageyama, Y. (2015). The role of trust in creating positive word of mouth and behavioral intentions: The case of online social networks. *Journal of Relationship Marketing, 14*(1), 16 - 36. DOI: 10.1080/15332667.2015.1006002

Chen, T., Peng, L., Yin, X., Rong, J., Yang, J., & Cong, G. (2020). Analysis of user satisfaction with online education platforms in China during the COVID-19 pandemic. *Healthcare, 8*(3), 200. DOI: 10.3390/healthcare8030200

Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297–334. DOI: 10.1007/BF02310555

Figalist, I., Dieffenbacher, M., Eigner, I., Bosch, J., Olsson, H., & Elsner, C. (2020). Mining customer satisfaction on B2B online platforms using service quality and web usage metrics. *2020 27th Asia-Pacific Software Engineering Conference (APSEC)* (pp. 435-444). IEEE. DOI: 10.1109/APSEC51365.2020.00052

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50. DOI: 10.2307/3151312

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2017). *Multivariate data analysis* (7th ed.). Cengage Learning.

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science, 45*(5), 616-632. DOI: 10.1007/s11747-017-0517-x

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115–135. DOI: 10.1007/s11747-014-0403-8

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing* (Vol. 20, pp. 277-319). Emerald Group Publishing Limited. DOI: 10.1108/S1474-7979(2009)0000020014

Kim, J. (2021). Platform quality factors influencing content providers' loyalty. *Journal of Retailing and Consumer Services, 60*, 102510. DOI: 10.1016/J.JRETCONSER.2021.102510

Koay, K., Cheah, C., & Chang, Y. (2022). A model of online food delivery service quality, customer satisfaction and customer loyalty: a combination of PLS-SEM and NCA approaches. *British Food Journal, 124*(12), 4516-4532. DOI: 10.1108/bfj-10-2021-1169

Luo, Y., Tang, L., Kim, E., & Wang, X. (2021). Hierarchal formation of trust on peer-to-peer lodging platforms. *Journal of Hospitality & Tourism Research, 46*(7), 1384 - 1410. DOI: 10.1177/10963480211031399

Mou, J., & Cohen, J. (2017). Trust and online consumer health service success. *Information Development, 33*(2), 169 - 189. DOI: 10.1177/0266666916642507

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Ringle, C. M., Sarstedt, M., Mitchell, R., & Gudergan, S. P. (2020). Partial least squares structural equation modeling in HRM research. *The International Journal of Human Resource Management, 31*(12), 1617-1643. DOI: 10.1080/09585192.2017.1416655

Rita, P., Oliveira, T., & Farisa, A. (2019). The impact of e-service quality and customer satisfaction on customer behavior in online shopping. *Heliyon, 5*(10), E02690. DOI: 10.1016/j.heliyon.2019.e02690

Thakur, R. (2018). Customer engagement and online reviews. *Journal of Retailing and Consumer Services, 41*, 48-59. DOI: 10.1016/j.jretconser.2017.11.002

Top, C., & Ali, B. (2021). Customer satisfaction in online meeting platforms: Impact of efficiency, fulfillment, system availability, and privacy. *Artificial Intelligence, 10*(38), 70-81. DOI: /10.34069/AI/2021.38.02.7

Tseng, S. (2015). Exploring the intention to continue using web-based self-service. *Journal of Retailing and Consumer Services, 24*, 85-93. DOI: 10.1016/j.jretconser.2015.02.001

Wang, J., Shen, X., Huang, X., & Liu, Y. (2021). Influencing factors of the continuous usage intention of consumers of online food delivery platform based on an information system success model. *Frontiers in Psychology, 12*, 716796. DOI: 10.3389/fpsyg.2021.716796

Zhang, J., & Sun, H. (2020). Research on the impact of takeout platform's electronic service quality on customer loyalty. *Business Prospects, 1*(1), 92-100. DOI: 10.52288/BP.27089851.2020.12.08

Zhou, H., & Xing, X. (2022). Study on the impact of fresh food e-commerce logistics service quality on customer satisfaction, customer trust, and repurchase intention. *Journal of International Trade & Commerce, 18*(5), 19-35. DOI: /10.16980/jiyc.22.5.202210.19

Patipol Homyamyen
Rajamangala University of Technology Suvarnabhumi,
Suphanburi, Thailand
patipol.h@rmutsb.ac.th
ORCID: 0000-0002-7261-2693

Waiphot Kulachai
Suan Sunandha Rajabhat University,
Bangkok,
Thailand
waiphot.ku@ssru.ac.th
ORCID: 0000-0002-3476-9462

Khwanta Benchakhan
Suan Sunandha Rajabhat University,
Bangkok,
Thailand
khwanta.be@ssru.ac.th
ORCID: 0000-0002-7689-8051

Junphen Wannarak
Rajamangala University of Technology
Suvarnabhumi,
Suphanburi, Thailand
junphen.w@rmutsb.ac.th
ORCID: 0000-0001-6304-1967