O2O 플랫폼 충성도에 플랫폼 정보 품질과 고객 정보품질이 미치는 영향 분석

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An Analysis of the Effect of Platform Information Quality and Customer Information Quality on Customer Loyalty to Online to Offline Platforms

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ABSTRACT

Purpose: This study aims to investigate the impact of two types of information quality, which are platform-oriented information quality and customer-oriented information quality, on customers' decision-making processes in the Online to offline (O2O) platform environment. Grounded in the product brokering efficiency model, which encompasses screening cost, evaluation cost, and decision quality, a model framework was developed. Furthermore, this study explores how these decision-making processes affect customer loyalty.

Methods: Given that food delivery apps are the most widely used O2O service in Korea, this study targeted users of these apps for data analysis. We conducted hypothesis testing through a purposive sampling methodology focusing on food delivery app users. A Partial Least Squares Structural Equation Modeling analysis was conducted to analyze the data. The data collection occurred via an online survey from October to December 2021, with a total of 212 respondents participating.

Results: The results of this study revealed the significant role of information quality in helping customers' decision processes while using food delivery apps. Specifically, it was found that platform-oriented information positively influences decision quality, while customer-oriented information significantly affects both the reduction of evaluation cost and the enhancement of decision quality. Additionally, the study indicated that lower evaluation costs and higher decision quality lead to increased platform loyalty. However, a reduction in screening cost did not have a significant impact on platform loyalty.

Conclusion: While previous studies have overlooked the existence of two sides, service provider and user, in a platform, this research holds significance in its analysis of how information quality impacts loyalty by utilizing the two kinds of information quality. Practitioners can enhance customer loyalty to the platform by enriching customer-oriented information, thereby reducing customers' evaluation costs and encouraging more loyal usage of the platform.

Key Words: O2O Platform, Food Delivery Apps, Information Quality, Customer Loyalty

1. Introduction

Numerous companies operate both offline and online channels for service delivery, a trend primarily driven by advancements in information technology. This blended approach, where both online and offline channels interact and enhance consumer experiences, is referred to as an online-to-offline (O2O) service (He et al., 2019; Moon and Armstrong, 2019). This allows users to find information using the online channel while actually using the service through the offline channel (Chen et al., 2015; Xiao and Dong, 2015).

However, the adoption of O2O services is not affordable for all companies due to the significant financial and temporal investments required for their implementation and maintenance (Chang et al., 2018). Hence, several companies choose to provide O2O services by making contracts with a larger, well-known third-party platform (Chang et al., 2018). For example, small hostels advertise themselves via Booking.com or Airbnb. Similarly, local restaurants gain new customers and provide delivery services using the Uber Eats service.

A notable advantage of the O2O model is the availability of online information about local businesses, which mitigates the uncertainty faced by consumers, especially when dealing with smaller shops lacking online presence. Platforms can further alleviate this uncertainty by providing two categories of information about service providers.

The first type of information is uploaded by the provider. This information includes general information, such as price, and quality of the product that the provider offers. The second type is user-generated information. Most online channels provide reviews, forums, or comment sections where users can openly exchange information. This type of information is also known as electronic word-of-mouth (eWOM). Potential customers can obtain information about the product or service by reading other users' reviews. User-generated content performs a critical role in purchase decisions made by numerous customers (Cheung and Thadani, 2012).

While the importance of information in consumer decision-making is well-established, existing research often focuses exclusively on either provider-supplied (Chang and Chen, 2009; Chen et al., 2017; Wang et al., 2020) or user-generated information (Bulut and Karabulut, 2018; Hussain et al., 2017; Matute et al., 2016). This one-sided approach overlooks the combined effect of two types of information on consumer judgment. Addressing this gap, the current study investigates the impact of information orientation in online channels on customer decision-making processes and how these processes influence platform loyalty.

The research specifically focuses on the food sector, a primary arena for O2O strategies (He et al., 2019; Roh and Park, 2019; Xu and Huang, 2019; Yeo et al., 2017). In South Korea, the users of O2O food delivery services increased from 870,000 in 2013 to 25,000,000 in 2018, and the transaction volumes increased from USD 335,000 to USD 3 billion (KISDI, 2019). Considering this rapid growth, we performed the research in the food services context representing the O2O platform service.

Given this context, the study poses two pivotal research questions: (1) In the O2O food service context, how do both types of information quality on an O2O platform influence customer decision-making? (2) How does this decision-making process contribute to the development of customer loyalty?

2. Literature review

2.1. O2O food delivery service platform

The O2O food delivery service platform has rapidly expanded owing to the ongoing technological and social changes (Zhang et al., 2019). Roh and Park (2019) have indicated three reasons for this trend. (1) Modern people work longer hours, and the growing number of working mothers has increased the number of people who prefer to order food rather than cook at home. (2) The increase in single-person households, a phenomenon that occurs in developed countries, accelerates O2O service platform use (Xu and Huang 2019). (3) The development of O2O apps (e.g., Uber Eats) and platforms takes various ways to adapt to customer's various needs, from simple fast food to homemade healthy food.

Research on O2O services is divided into four categories: business model, customer management, channel management, and marketing application (Wang et al., 2020). Among these categories, the presented research questions are classified under customer management.

Several researchers of customer management customer investigate the motivations for engaging with O2O platforms (Ray et al., 2019; Roh and Park, 2019; Yao et al., 2023; Yao and Li, 2024). Roh and Park (2019) explored how individuals' perceptions of food preparation as a moral obligation influence their inclination towards using food delivery applications. Ray et al. (2019) employed the uses-and-gratifications theory to discern factors such as customer experience, restaurant search functionality, and ease of use that shape user intentions towards food delivery apps. Particularly, there have been studies to determine whether the temporarily increased intention to use O2O food delivery services due to COVID-19 would persist afterwards. For instance, the study by Yao et al. (2023) confirmed that perceived complementarity and network size significantly influence continued intention, underlining the importance of the service ecosystem and user community. Yao and Li (2024) identified that after the coronavirus outbreak, the sustained intention to use these services was mainly due to factors like perceived promotion, time-saving, and desire for food.

Other researchers have confirmed that the information quality of O2O platforms significantly affects user satisfaction and loyalty towards these platforms (Kang and Namkung, 2019; Wang et al., 2020). For exam-

ple, Kang and Namkung (2019) examined the customer decision-making process with regard to O2O food service platforms using the elaboration likelihood model (ELM) and the technology acceptance model (TAM). This study found that information quality is the key antecedent of customer satisfaction. Similarly, Wang et al. (2020) attempted to determine the importance of information quality and service quality, which eventually led to O2O service platform loyalty, and found that information quality had a significant effect on customer loyalty. Shah et al. (2023) conducted a study to explore the relationship between the emotions that are induced when people read reviews and their ongoing intention to use a service. This research specifically focused on two key attributes of information quality, the textual content and the pictographic content of the reviews. Based on these results, this study analyzes how two types of information quality affect customer perception and behavior through a product brokering efficiency model.

2.2. Information quality

The Information System (IS) success model, initially proposed by Delone and McLean in 2003, has been a pivotal framework for assessing the impact of system and information quality variables on user satisfaction and usage intention. Considering that the service quality influences customer loyalty based on the formation of rapport (Ryu and Jo, 2023), the focus on information quality is important. Previous studies have predominantly aligned with two research streams regarding information quality.

In the first stream, information quality is perceived as a component of system or website quality, focusing solely on company-provided information (An et al., 2022; Wang, 2008). Wang (2008), for instance, applied the IS success model to the e-commerce domain and underscoring system, information, and service qualities as significant precursors to e-commerce reuse intention. Similarly, Chen et al. (2017) identified information quality as a key antecedent to customer loyalty in consumer-to-consumer e-commerce.

The second research stream concentrates on customer-generated information or electronic word-of-mouth (eWOM) quality, examining consumer information selection processes through the lens of the Elaboration Likelihood Model (ELM). Yan et al. (2016), for example, explored the traits of eWOM impacting information adoption in social media and e-commerce websites, particularly focusing on eWOM usefulness and credibility which positively influenced e-commerce eWOM adoption but not in social media contexts. In the food O2O commerce scenario, Kang and Namkung (2019) applied both ELM and Technology Acceptance Model (TAM) to analyze customer purchase intentions, discovering that information quality and source credibility significantly affected customer behavior. Yeap et al. (2014) similarly utilized these constructs to identify factors influencing user preferences for eWOM platforms.

However, most studies have traditionally focused on just one aspect of information quality. Yoo et al. (2015) attempted to integrate both aspects of information quality in the e-marketplace context. They posited that website information quality encompasses three dimensions: content, form, and time. The content dimension is related to the content of the information provided by the firm. When the information provided by the firm is correct, appropriate, and satisfies the user's interest, the user feels that the information quality is high. The form dimension is related to the presentation of the information provided by the firm.

The more intuitive the interface and the easier it is to use, the higher the perceived quality of the information. The time dimension entails the relationship between the information provided and time. The faster the information is supplied and new information is obtained, the higher the perceived quality of the information. When information search histories are well preserved and the information search time is less, the user feels that the information quality is high.

In contrast, the quality of an eWOM system is defined across three dimensions: reciprocity, responsiveness, and nonverbal information. Reciprocity is defined as the opportunity for consumers to directly communicate with a firm rather than simply receiving the provided information (Johnson et al., 2006). The interactions occurring in a review system include consumer interactions with the firm and other consumers. The higher the reciprocity, the more willing the user is to write a positive review; consequently, it is not necessary for the firm to modify or delete the reviews arbitrarily. Responsiveness indicates whether a customer can obtain the desired information (Yoo et al., 2015). Customers intend to reduce feelings of uncertainty through reviews. The better the presented information fulfills customer needs, the higher the satisfaction. Conversely, eWOM responsiveness decreases and leads to low user satisfaction if simple and meaningless information continues to be presented (Johnson et al., 2006). Nonverbal information involves the use of various channels to communicate information without the use of words or speech (Johnson et al., 2006). As information can be presented in the form of texts, images, and video clips, their richness reduces customer uncertainty and leads to increased customer satisfaction (Ramirez and Burgoon, 2004). Therefore, platform providers encourage customers to include photos and videos in their reviews.

2.3. Product brokering efficiency model

The product brokering efficiency model, rooted in the theoretical work by Ratchford (2001), integrates concepts from human capital and household production models. This combined model explained life cycle consumption patterns, lifestyles, customer searching behavior, and brand loyalty. According to the Ratchford (2001), consumers strive to optimize the utility or output from their consumption activities, while minimizing the associated costs or time.

Zhang et al. (2011) expanded Ratchford's model to the domain of the electronic market, highlighting that online shopping requires significant human capital investments, such as knowledge about products and website navigation. Their study posits that customer loyalty towards an online store is driven more by the efficiency of the shopping experience than by resistance to switching platforms. Thus, the efficiency of the online purchasing process significantly influences consumer loyalty.

Zhang et al. (2011) indicated that the purchasing process entails three constructs: product screening costs, product evaluation costs, and decision-making quality. Product screening cost is defined as a customer's perceived cost for searching for products and services (Zhang et al., 2011; Zhang et al., 2018). In the product screening stage, consumers select a large set of options that include the most promising alternatives without considerable evaluation (Zhang et al., 2018). The next stage, the evaluation stage, is defined with regard to the customer's perceived cost for making the purchase decision. Consumers consider

alternatives from the previous stage and choose the best options. After this process, consumers make a purchase decision (Häubl and Trifts, 2000). Decision-making quality is the extent to which the purchased item satisfies customer needs (Zhang et al., 2011; Zhang et al., 2018). This variable indicates the extent to which the system supports the process of an individual making a purchase decision (Chou and Hsu, 2016).

3. Research model and hypotheses development

The research framework is grounded on the product brokering efficiency model and two types of information quality as presented in Figure 1, aims to explore the impact of these informational aspects on customer perceptions and loyalty within the context of Online-to-Offline (O2O) food delivery applications. Two types of information quality are conceptualized as second-order constructs, each comprising three distinct sub-variables.
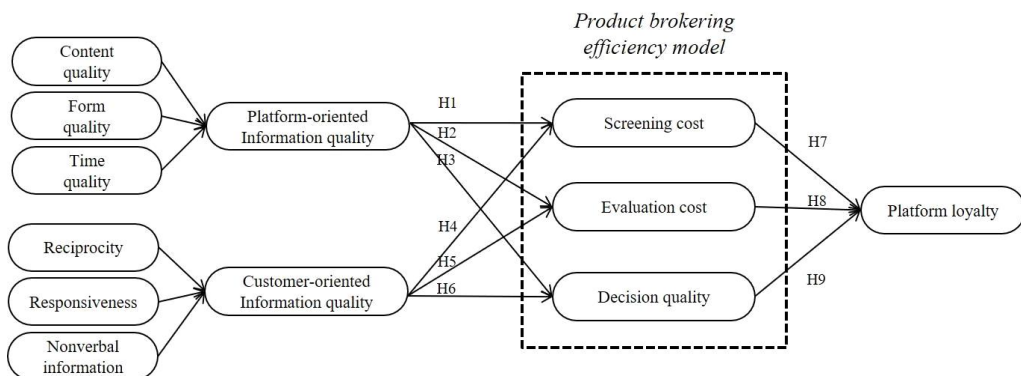

Figure 1. Research framework

3.1. Information quality and product brokering efficiency model

In the traditional retail context, it has been observed that when the retail store layout is neat, customers can easily find the products they want (Johnson et al., 2003). In the case of a store with a complex layout, considerable time and effort is necessary to find the products that customers desire (Griffith, 2005). The online context involves a more complex situation. As there is no longer a physical store in the online context, the shopping experience is converted into a human–website interaction (Chen and Dubinsky, 2003). Unlike offline environments, online platforms lack in-person assistance, posing challenges for customer support. While customer service exists, its effectiveness is often constrained by time delays. Therefore, in an online context, it is important to deliver accurate information with regard to customers' needs. If the information is out-of-date or inaccurate, customers have to spend more time and effort to find the product they desire (Yoo et al., 2015). Moreover, an O2O platform can include many small shops, making it difficult

for customers to find the desired information. Thus, whether the platform's layout provides neat and accurate information can help in the customer's decision-making process (Yoo et al., 2015). Thus, the following hypotheses are proposed.

H1: Platform-oriented information quality negatively affects product screening cost.
H2: Platform-oriented information quality negatively affects product evaluation cost.
H3: Platform-oriented information quality positively affects decision support quality.

Customers read reviews to simplify their decision-making process (Burton and Khammash, 2010; Hennig-Thurau et al., 2004). According to Burton and Khammash (2010), there are three major motivations for reading a review: (1) to assist in decision-making, (2) to lower risks, and (3) to reduce searching time.

Potential customers use reviews to determine if the product can satisfy their needs (Yoo et al., 2015). Customer reviews provide more detailed information about the product characteristics than the information provided by the firm. Through customer reviews, potential individuals can choose products that satisfy their needs.

The aspect of perceived risk reduction is crucial in the consumer's decision-making process. Matute et al. (2016) and Pappas (2016) emphasize that consumers naturally tend to minimize their perceived risks. In the context of O2O platforms, where several brands might be unfamiliar, the risk associated with purchasing products from these lesser-known brands is a significant concern (Sheth and Venkatesan, 1968). However, the presence of extensive reviews can mitigate these risks (Hennig-Thurau et al., 2004). Moreover, the inability to physically interact with products on online platforms heightens quality concerns, leading consumers to depend heavily on the experiences shared by others in reviews (Bulut and Karabulut, 2018; Hajli, 2015).

O2O platforms, aggregating a vast array of unfiltered information, organize and present this data in a structured manner. Consumers are empowered to filter and select products based on the volume of reviews or ratings, thereby optimizing their search process and reducing the time and effort required to identify the best-suited products. This structured presentation of reviews is instrumental in enhancing the efficiency of the product selection process, allowing consumers to find their desired products with minimal searching cost.Based on previous research, the following hypotheses are proposed.

H4: Customer-oriented information quality negatively affects product screening cost.
H5: Customer-oriented information quality negatively affects product evaluation cost.
H6: Customer-oriented information quality positively affects decision support quality.

3.2. Product brokering efficiency model and platform loyalty

In this study, customer loyalty within Online-to-Offline (O2O) platforms is conceptualized as customers' favorable attitudes leading to repeated visits and purchases, encompassing both attitudinal and behavioral

dimensions (Anderson and Srinivasan, 2003). Drawing on the foundational works of Ratchford (2001) and Zhang et al. (2011), this research posits that in online contexts, consumer loyalty primarily stems from the efficiency of the shopping process. That is, customers are likely to exhibit loyalty to platforms that stream-line and facilitate their decision-making process (Ratchford, 2001).

Zhang et al. (2018) further elaborated on the linkage between the purchasing process and customer loy-alty, grounded in the expected utility theory. They posited that customer loyalty is fostered on platforms that effectively minimize input costs (perceived decision effort) and maximize output quality (perceived de-cision quality). Translating these insights to the realm of online platforms, it can be inferred that higher de-cision-making quality, lower product screening and lower evaluation costs will result in higher customer loyalty. Based on previous research, the following hypotheses are presented.

H7: Product screening costs negatively affect customer loyalty.

H8: Product evaluation costs negatively affect customer loyalty.

H9: Decision-making quality positively affects customer loyalty.

4. Methodology

4.1. Survey Items

This study is focused on food delivery service applications. In the context of Korea, these services rep-resent the most dynamic segment among various Online-to-Offline (O2O) platforms, encompassing a user base exceeding 10 million. This substantial user engagement underscores the relevance of research in this domain.

This study aims to investigate the process by which the two types of information quality affect users perceptions in the decision process that eventually generates platform loyalty. Given the study's focus on consumer perceptions, a survey methodology has been chosen for data collection and hypothesis testing.

Respondents were asked to answer each question based on their experience with O2O food delivery service platforms. Each item was measured on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). All constructs were selected using multiple item scales adapted from previous studies to ensure reliability and validity.

Two kinds of information quality factors are second-order constructs. For platform-oriented information quality, content quality, form quality and time quality factors used as the first-order are adopted from Yoo et al. (2015). For customer-oriented information quality, reciprocity, responsiveness, and nonverbal used as the first order are adopted from Yoo et al.(2015).

Three items of screening cost, three items of evaluation cost, and three items from decision quality are all adopted from Zhang et al. (2011) and Zhang et al. (2018). Four items entailing platform loyalty are adopted from Chang and Chen (2009), Zhang et al. (2018), and Oliver (1999).

The constructs and items are summarized in Table 1. The questionnaire, originally developed in English, was subsequently translated into Korean. The translation process involved three bilingual researchers with expertise in both languages and a comprehensive understanding of the field.

Table 1. Survey items

Variables	Item	Content	Reference
Reciprocity	REC1	It is easy to directly post a comment related to the product on the customer review system	
	REC2	It is easy to see the comments of other consumers in the customer review system	
	REC3	I believe negative comments about the products are not arbitrarily deleted by sellers	
Responsiveness	RSP1	The customer reviews about the products on this platform provide appropriate information	Yoo et al. (2015)
	RSP2	The customer reviews about the products on this platform provide information that I need	
	RSP3	The customer reviews about the products on this platform provide relevant information	
	RSP4	The customer reviews about the products on this platform are useful	
Nonverbal information	NVB1	Many review comments posted on this platform include more than just simple text; they also feature images or video clips.	
	NVB2	When posting a review comment, it is possible to use the nonverbal format	
	NVB3	This platform provides extra advantages when posting an after-use comment using images or video clips	

Variables	Item	Content	Reference
Product screening cost	SCC1	It takes a long time to find stores where I want to order from	Zhang et al. (2011); Zhang et al. (2018)
	SCC2	It is exceedingly difficult to find stores where I want to order from	
	SCC3	It takes substantial effort to find a store where I want to order from	
Product evaluation cost	EVC1	It was exceedingly difficult for me to make this purchase decision through this platform	
	EVC2	I had difficulty deciding which store would be best for me through this platform	
	EVC3	Making this purchase decision through this platform was a difficult task for me	
Decision-making quality	DCQ1	The information, including the review comments in the platform, aids in making a better food choice	
	DCQ2	The information, including the review comments in the platform, aids in making an effective decision	
	DCQ3	The information, including the review comments in the platform, builds a foundation for prioritization when making decisions	
Platform loyalty	PLY1	I try to use this platform whenever I need to make a purchase	Chang and Chen (2009); Oliver (1999); Zhang et al. (2018)
	PLY2	When I need to make a purchase, this platform is my first choice	
	PLY3	I like using this platform	
	PLY4	For me, this is the best platform to do business with	

4.2. Data Collection

A survey was conducted on individuals who used the three most prevalently used food delivery service platforms (i.e., Baemin, Yogiyo, and Baedal-tong) in Korea. This study collected data from October to December 2021, utilizing an online survey method. Selection of participants was facilitated by a web-based survey agency. Initially, respondents were required to provide their consent for participation in the study, with assurances regarding the confidentiality and anonymity of their responses. Additionally, the survey allowed participants the option to bypass certain questions or withdraw from the survey at any point. Respondents were limited to those who had previously experienced using O2O food delivery service

platforms. A total of 391 survey responses were collected. However, 179 responses were excluded due to a lack of experience with O2O food delivery service platforms or non-responses. As a result, 212 survey responses were used for the analysis. Table 2 summarizes the demographic information of the respondents.

Table 2. Demographic statistics of respondents (N=212)

Measure	Value	Frequency	Percentage (%)
Gender	Male	89	42
	Female	123	58
Age	< 30	67	31
	30–39	84	40
	40–49	45	21
	50 >	16	8
Marriage	Single	116	55
	Married	96	45
Household	1	40	19
	2	40	19
	3	57	27
	4	61	29
	5	14	6
Region	Seoul	72	34
	Gyeonggi-do	67	32
	Incheon	10	5
	Chungcheong-do	4	2
	Gangwon-do	1	1
	Jeolla-do	19	9
	Gyeongsang-do	37	16
	Jeju island	2	1

5. Results

The data were analyzed using the partial least squares method (PLS) and the Smart PLS (version 4.0) statistical software package. This method is advantageous with regard to analyzing small samples and measurement scales because of its low constraints (Chin, 1998; Gefen et al., 2011). Additionally, PLS allows latent constructs as formative or reflective indicators (Fu, 2011; Hsieh et al., 2012). This enables analysis of the second order used in this study.

5.1. Validity test

The appropriateness of the measurement model was evaluated based on reliability, convergent validity,

and discriminant validity. Reliability was tested with the composite reliability (CR) value. Cronbach's alpha was determined to verify the internal consistency of each construct. As summarized in Table 3, all CR values and Cronbach's alphas exceeded 0.6, indicating that there was no significant defect in internal consistency.

Convergent validity was verified based on two criteria: (1) all factor loadings of each item should exceed 0.7, and (2) the average variance extracted (AVE) from the constructs should exceed 0.5 (Fornell and Larcker, 1981). Table 3 summarizes the factor loading values and AVE values ranging from 0.740 (TIM1) to 0.938 (EVC1) and from 0.604 (time) to 0.877 (evaluation cost), satisfying the first and second criteria, respectively.

In accordance with the guidelines of Fornell and Larcker (1981), discriminant validity is verified if the square root of the AVE exceeds the correlation coefficient of the constitutional concepts. The discriminant validity values are summarized in Table 4. The square root value of the AVE, shown in bold, exceeds the other correlation coefficient values; hence, discriminant validity is confirmed.

Table 3. Loadings and Convergent validity

	Item	Factor Loading	Cronhach's Alpha	Composite Reliability	AVE
Content	CON1	0.806			
	CON2	0.892	0.813	0.889	0.729
	CON3	0.861			
Form	FOR1	0.799			
	FOR2	0.862	0.744	0.855	0.663
	FOR3	0.779			
Time	TIM1	0.740			
	TIM2	0.832	0.673	0.820	0.604
	TIM3	0.755			
Reciprocity	REC1	0.875			
	REC2	0.876	0.835	0.901	0.752
	REC3	0.850			
Responsiveness	RSP1	0.833			
	RSP2	0.815	0.864	0.907	0.710
	RSP3	0.856			
	RSP4	0.865			
Nonverbal information	NVB1	0.868			
	NVB2	0.895	0.832	0.899	0.748
	NVB3	0.831			

	Item	Factor Loading	Cronhach's Alpha	Composite Reliability	AVE
Screening cost	SCC1	0.888			
	SCC2	0.894	0.875	0.923	0.800
	SCC3	0.901			
Evaluation cost	EVC1	0.938			
	EVC2	0.934	0.930	0.955	0.877
	EVC3	0.938			
Decision quality	DCQ1	0.833			
	DCQ2	0.906	0.820	0.893	0.736
	DCQ3	0.833			
Platform loyalty	PLY1	0.847			
	PLY2	0.878	0.871	0.912	0.722
	PLY3	0.870			
	PLY4	0.802			

Table 4. Discriminant validity results

	CON	FOR	TIM	REC	RSP	NVB	DCQ	SCC	EVC	PLY
CON	0.854									
FOR	0.609	0.814								
TIM	0.435	0.579	0.777							
REC	0.335	0.428	0.437	0.867						
RSP	0.459	0.518	0.462	0.423	0.842					
NVB	0.390	0.433	0.422	0.557	0.470	0.865				
DCQ	0.425	0.401	0.368	0.445	0.508	0.448	0.858			
SCC	−0.168	−0.293	−0.262	−0.218	−0.250	−0.220	−0.108	0.894		
EVC	−0.223	−0.257	−0.205	−0.299	−0.211	−0.207	−0.145	0.391	0.937	
PLY	0.426	0.364	0.323	0.283	0.430	0.330	0.359	−0.046	−0.208	0.850

5.2. Hypotheses test

Structural equation modeling was used for hypothesis testing. All first-order factors have strong loadings on the second-order factor. The results are summarized in Table 5, indicating that the information quality of the platform only has an impact on decision quality (t=2.101, p<0.05), whereas the information quality of the eWOM system influences the evaluation cost (t=2.318, p<0.05) and decision quality (t=6.937, p<0.01); H3, H5, and H6 are supported. Additionally, the evaluation cost (t=2.649, p<0.01) and decision quality (t= 5.604, p<0,01) significantly affect platform loyalty. Therefore, H8 and H9 are supported.

However, the screening cost was statistically insignificant, therefore H7 is rejected. The values of platform loyalty were 0.145, which means that 14.5% of the platform loyalty are explained by the proposed model. The results are illustrated in Figure 2.

Table 5. Hypotheses test results

|	β	T-value	P-value	Hypothesis support
H1: Platform-oriented information quality → Screening cost	−0.174	1.769	0.078	Not supported
H2: Platform-oriented information quality → Evaluation cost	−0.148	1.504	0.134	Not supported
H3: Platform-oriented information quality → Decision quality	0.176	2.101	0.037	Supported
H4: Customer-oriented information quality → Screening cost	−0.175	1.802	0.073	Not supported
H5: Customer-oriented information quality → Evaluation cost	−0.198	2.318	0.021	Supported
H6: Customer-oriented information quality → Decision quality	0.471	6.937	0.000	Supported
H7: Screening cost → Platform loyalty	0.062	0.821	0.413	Not supported
H8: Evaluation cost → Platform loyalty	−0.183	2.649	0.009	Supported
H9: Decision quality → Platform loyalty	0.339	5.604	0.000	Supported
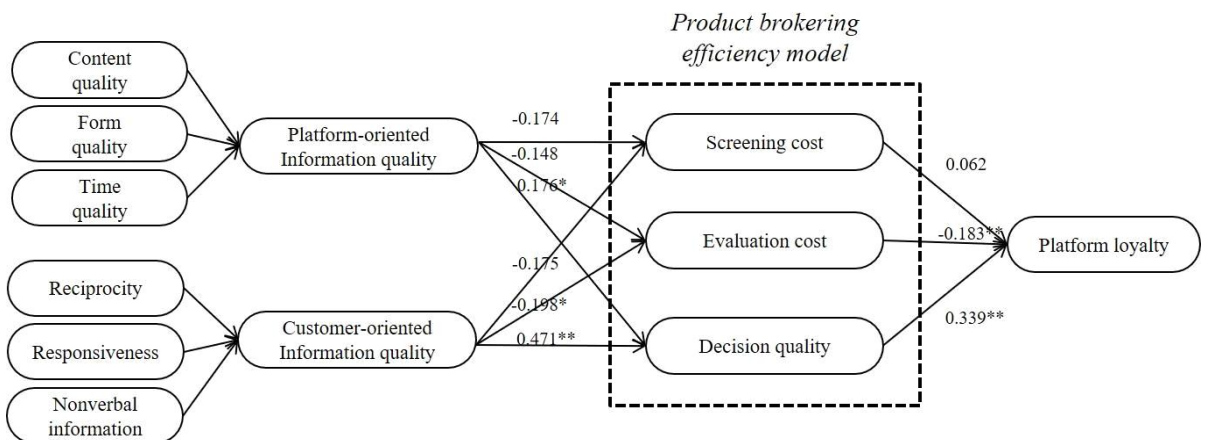
Figure 2. Hypotheses test results

5. Conclusion

This study aimed to explore how two types of information quality, platform-oriented and customer-oriented, affect customers in their information selection process and influence platform loyalty. The findings revealed that platform-oriented information quality, encompassing content, form, and time quality, significantly influences decision quality. However, no notable relationships were identified between screening cost and evaluation cost. In contrast, customer-oriented information quality, which includes reciprocity, responsiveness, and nonverbal communication, significantly impacts both evaluation cost and decision quality. These results align with existing research, which asserts that user-generated content significantly influences users' decision processes (Bulut and Karabulut, 2018; Hajli, 2015).

Among the three decision-making processes factors, it was observed that the evaluation cost and decision quality were found to significantly influence platform loyalty. This finding diverges from previous studies which suggested that customer loyalty is affected by lower screening costs and higher decision-making quality (Zhang et al., 2011; Zhang et al., 2018). The discrepancy can stem from the fact that while previous studies have focused on how recommendation systems contribute to platform loyalty, this study aims to explore how two types of information quality affect platform loyalty.

Recommendation systems, by summarizing a broad range of information, can reduce screening costs. However, the customers must choose from the suggested products, thus increasing their evaluation cost (Zhang et al., 2011). On the other hand, information from the platform and its users, though less effective in summarizing, can significantly aid users' choices. By reading reviews, customers minimize risk and choose the product that best matches their needs. This difference between the recommendation and eWOM systems may have led to the inconsistent results with previous studies.

6.1. Theoretical implication

This study has three theoretical implications. First, our study considered both aspects of information based on the two-sided characteristics of O2O platforms. Prior studies focused mainly on only one source of information, either the provider or users. By adopting a broader perspective of the research topic, a deeper understanding of the manner in which information affects the decision-making and loyalty formation in the O2O context was gained.

Second, our study shows that information quality has a significant impact on customers' decision-making processes. Specifically, users are more influenced by the information provided by other users than that provided by the platform. Furthermore, our research shows that the higher the customer-oriented information quality, the lower the evaluation cost and the higher the decision quality of the user. Future studies could expand the research model in this study by introducing factors that could affect the decision-making process of customers.

Third, by adopting the product brokering efficiency model, it is found that guiding the decision-making

process of users significantly affects loyalty formation in the O2O platform context. Studies on loyalty in the O2O platform context identified factors, such as satisfaction (Anderson and Srinivasan, 2003; Back and Parks, 2003) and trust (Bulut and Karabulut, 2018; Hsu et al., 2014; Kim et al., 2009) as antecedents to customer loyalty. However, the present study shows that lowering the customer's evaluation cost is also effective in encouraging loyalty toward the platform. This finding is significant as it provides a broader explanation of customer loyalty.

6.2. Practical implication

The findings show that the customer review system is a critical factor in loyalty formation. Therefore, platform managers could improve their marketing strategy based on the results of this study.

First, although the platform-oriented information quality does not lower the customer's evaluation cost, it significantly affects their decision quality. Platform managers should focus on the appropriateness, user-friendliness, and timeliness of the information provided on the platform because decision quality is critical in forging loyalty.

Second, the high quality of the customer-oriented information has a significant positive effect on loyalty formation. Therefore, platform managers should encourage users to freely and actively use the review system, possibly by providing appropriate rewards to review posters. The higher the reciprocity and responsiveness of the reviews, the more advantageous they become in the decision-making process. The use of photographs or videos also helps in increasing the quality of user-generated information.

Finally, to increase customer loyalty, platform managers should focus on decreasing the customer's evaluation cost and improving the decision quality. The O2O platform is divided into two categories depending on the purpose. The first category gathers numerous stores, providing a wider range of choices for customers and gathering new customers for stores. The second category selects and recommends various products to the customer, reducing the cost of the customer in making a choice. Most Korean O2O food service platforms fit into the first category. Using an O2O delivery service, customers can order the food they want from restaurants that are difficult to find. For these services, the cost of searching has been reduced; however, the cost of evaluating a given piece of information has increased. From the customer's point of view, the customer-oriented information reduces the evaluation costs. Considering that customer satisfaction influences loyalty (Kim and Park, 2022), managers will gain more loyal customers if they provide additional features to reduce customer evaluation costs and improve decision quality.

6.3. Limitations and Future Research

This study has several limitations. It only focused on O2O food delivery service platforms in Korea, which raises the possibility that the findings might not be directly applicable to other contexts. In addition, the sample size was relatively small. Subsequent studies could yield different results in other countries or with larger sample sizes.

The results could vary in different countries due to cultural and market differences. Additionally, the relatively small sample size used in the study might limit the generalizability of the findings. Further studies with larger sample sizes or in different geographical locations might yield contrasting insights.

This study did not consider the difference between users who write eWOM and those who only read eWOM. According to Cantallops and Salvi (2014), users who write reviews tend to show higher loyalty toward the platform than those who simply read the reviews. Therefore, future research may focus on finding various methods of using eWOM systems for different users.

In this research, a model incorporating two variables of information quality was developed. The study discovered that evaluation costs and decision quality are crucial determinants of customer loyalty towards online platforms. This finding opens the door for further research to deepen the understanding of platform loyalty. Future investigations could explore factors beyond information quality that may influence screening and evaluation costs, potentially offering a more comprehensive view of how users interact with and perceive platforms. Although factors like how often people use the platform and how much money they spend could greatly affect the results of this study, we did not include these variables in our current research. We expect that future studies will consider these aspects, which will enhance our comprehension of the phenomena being studied.

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저자소개

박준성 연세대학교 산업공학과 박사학위 과정중이다. 주요 관심분야는 고객 리뷰 데이터를 활용한 서비스 품질 및 고객 이탈이다. PLS-SEM, Hayes process macro, 자연어 처리 등 다양한 방법론을 활용한다. 이러한 다양한 접근 방식을 통해 서비스 품질 평가와 고객 이탈의 이해를 심화하고자 한다.

박희준 미국 George Washington University 공학경영 박사학위를 취득하고 현재 연세대학교 산업공학과 교수로 재직 중이다. 연세대학교 융합기술경영학과 전공주임과 YTN 'ESG코리아' MC로도 활동하였으며, 국가별 품질 경쟁력 수준 평가방법 개발, 녹색기술 확산을 위한 기술 분석 및 소비자 수용촉진 전략에 관한 연구 등을 수행하였다. 주요 관심분야는 혁신이론, 학습이론, 조직이론, 인적자원관리이론 및 정보기술관련 이론 등을 토대로 한 혁신경영 전략수립 및 평가방법론 개발 등이다.