

Lee, Saerom; Ryu, Min Ho; Lee, Sang Yup; Kwak, Dong-Heon

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Where do you sell your products online? A seller perspective on online shopping platforms

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Where do you sell your products online?

A seller perspective on online shopping platforms

With the rapid development of information and communication technologies, various online shopping platforms have emerged. To understand the success of platform strategies, it is important to verify the features that are important to attract sellers. To estimate the economic value of free platforms for sellers, we try to estimate the willingness to pay (WTP) for each feature. Based on the features provided by Naver Smart Store (<https://sell.smartstore.naver.com>), we conduct a conjoint analysis. Notably, since Naver Smart Store platform provides the platform service for free to sellers as an open platform strategy, we can anticipate that the results of this research will reveal the value of an open platform strategy.

***Keywords:** Digital Platform, Online Platform Strategies, Commerce Market, Conjoint Analysis, Willingness to Pay*

Introduction

With rapid changes in information and communication technologies, e-commerce also evolved gradually. South Korea has gradually invested in e-commerce related technologies, such as network technologies and personal devices, etc. Considering the promising market size, various e-commerce services are competing with each other. In particular, mobile devices provide lots of opportunities for platform providers.

Based on Internet infrastructure, most e-commerce developed a business model with platform strategies. The fundamental concept of platforms, which mediate interactions between two or more parties, is service providers and service users (Ballon, 2009). Previous research has analyzed platform strategies and the effects of the strategies from various perspectives. To analyze the specific effects of difference digital platform strategies, we divided service users into product sellers and customers. Specifically, this paper tries to analyze the value of technological features in online shopping platforms through conjoint analysis. By measuring the value of the features, this paper helps reduce the effort needed for technological

investment, and provides guidelines for service providers.

This research has two contributions. First, this paper focus on the value of platform features from the perspective of sellers in e-commerce. As there are sharp increases in online platform service, consumers need to deal with tons of information on products and platform services online (Srinivasan et al., 2002). In the same vein, sellers also face various online shopping platforms. Moreover, a lot of online shopping platforms provide their services for free to sellers in a bid to expand the number of users (Mahadevan, 2000). Nowadays, to attract users, platform providers enhance the functionalities of their platforms. Because each platform has different features, determining the utility of specific features on online shopping platforms is crucial, not only for consumers, but also for sellers (Huang & Benyoucef, 2013). As platform providers need to spend a lot of money and effort on developing convenience features, it is important to verify the value of each feature. However, most studies have focused on the antecedents of platform values, or the utility of features in platforms, from the perspective of consumers (Nikou et al., 2014).

Second, this paper focuses on the Naver shopping platform, which is representative of Internet service firms in South Korea. With the advanced technological infrastructure in Naver, it tries to provide various features to service users, especially sellers, for free. For example, the Naver Smart Store provides a communications tool between the seller and the customer, and marketing tools to target certain types of customers. However, considering the company's intention to generate continuous use of their technology, not all features will provide high value and utility. In this regard, this paper attempts to determine the monetary value of features by asking sellers their willingness to pay for them. The results of the survey could reveal the economic value of platforms.

To analyze the value of the features, this paper conducts a conjoint analysis based on a survey of sellers in the Naver Smart Store. We focused on the features of the Smart Store based on e-commerce. First, this paper considers marketing-related features that could help increase the exposure of products on the Naver portal site. Since Naver tries to use their portal site traffic to market the products in the shopping section, sellers on the Smart Store benefit more compared to other e-commerce platforms. In addition, we measured the value of communication features between sellers and customers. Since sellers and customers could communicate with each other, customers could gain specific information about products in real time, or from the sellers directly. This feature could reduce the role of platform providers

and could help build trust between sellers and customers. Finally, we focused on BizAdvisor, which analyzes the daily data of the Smart Store. Considering the importance of data-based strategies, Naver Smart Store also newly launched.

E-commerce of Naver

E-commerce in South Korea has developed rapidly since 1995. Recently, with the diffusion of mobile devices, e-commerce has evolved into various forms, and the business model has also changed. Principally, to enhance efficiency for customers who face tons of information from e-commerce, platform services tried to provide various types of products for the same services. Platform services tried to develop technologically advanced services for the sellers and customers, to reduce the possibilities raised by technical problems. For example, previous research pointed out that positive network effects from both the seller and customer sides could bring about technical problems by increasing of customers' traffic usage. On the other hand, too many customers who use the platform service can cause problems in the customer relationship management service or product management. Therefore, online platform services tried to provide efficient features that can support the customer relationship, product management, online review management, etc. The main business models of online platform businesses provide platform technologies to users, especially sellers, because the customers have higher price sensitivities than sellers.

Recently in South Korea, one of the leading internet business firms, Naver, started expanding their business. By providing a technologically advanced e-commerce platform, Naver Smart Store tried to increase the number of sellers and customers, considering the positive network effects. The main business model of Naver Smart Store is a payment fee based on product sales and method of payment. Specifically, Naver provides various functions based on the process of e-commerce, such as product management, product marketing, logistics, customer management, etc. Since Naver provides its various convenience features for free, it is important to measure the value of the features. Figure 1 provides main view of Naver Shopping platforms (<http://pc.shopping2.naver.com>, 2018.05.24).

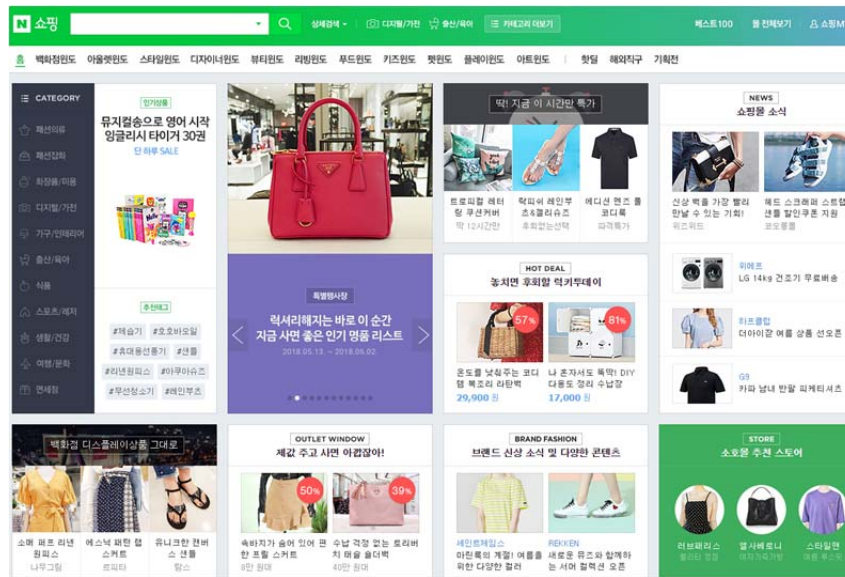


Figure 1. Naver Shopping Platforms

Sellers' Welfare and WTA

Most of research on platform strategies and welfare provided by platform focuses on WTA of customer. From the perspectives of platform strategies, platform providers try to provide platform service for free to customer sides who have relatively sensitive to cost. In this regards, previous research on welfare of platform measure the WTA of customer. The welfare means the sum of the benefits for particular product or services (Hugman, 1998). To measure the welfare, previous research usually adopts WTP which indicate the amount of money paid for products of services.

Research Questions

This research verifies the welfare scale of the online shopping platform from the perspectives on sellers. Then, to identify the specific attributes which are provided by shopping platform, we develop the following research questions.

Research Question 1: What is the scale of seller welfare provided by online shopping platform?

Research Questions 2: What factors have a significant impact on the seller welfare provided

by online shopping platforms?

Methodology

To answer the research questions, we used conjoint analysis as a methodology to find the WTP of specific web services on online shopping platforms. Conjoint analysis is a methodological approach to measuring economic value, especially user surplus produced by the gap between the actual market price and the willingness to pay (Green and Srinivasan, 1990). Therefore, we adopted conjoint analysis as a suitable methodological approach, because we tried to compare a variety of features' values on online shopping platforms. Conjoint analysis is a multivariate technique to illustrate the multiple trade-offs in decision-making. We provided various features simultaneously to sellers in order to assess the users' decision-making process (Nikou et al., 2014). Additionally, we measured the seller surplus by comparing the gap between the WTP of Naver Smart Store and existing online shopping platforms' fees. Specifically, for conjoint analysis, we adopt conditional selection method for payment intention. Conditional selection method can reduce the complexities of decision making for certain conditions by asking three or four conditions at the same time.

To provide properties of e-commerce platform, we develop an attribution set for quantification of Naver Smart Store's welfare. Because conditional selection method of conjoint analysis require the level of property based on research objectives, we divide attributes into two level (provide a feature: 1 or not: 0). Therefore, Table 1. Provides specific features provided by Naver Smart Store and level of attribute divided into two types.

Table1. Attributes Set the Quantification of the Sellers' Welfare

Attribute	Level	Code	Description
Exposure Request	1	Q1Y	By using Exposure Request, sellers can offer the exposure time and place of their product on Naver shopping platforms
	2	Q1N	
Customer Request Management	1	Q2Y	When customers ask sellers about products, sellers can response to customer in real time. In addition, sellers can manage the customers who request after service or refunds for products.
	2	Q2N	
Biz Advisor	1	Q3Y	Biz Advisor provides information of customers and sales

	2	Q3N	using automatically visualized chart to help sellers understand
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In order to conduct survey toward seller, we create alternative sets based on attributes and level. To minimize the set of alternatives to cover the whole features, we finally obtain 8 alternatives and 4 compared set using SPSS Statistics 23.0.

Data

In order to reach this goal, this paper attempts to estimate the WTP for a free online platform. For this analysis, we collected survey data from sellers who used online shopping platforms provided by Naver, one of the representative portal services in Korea. We suggested r foure attributes Naver Smart Store provides in order to measure WTP, which is normally the main concept in adoption studies (Berman et al., 2011). Finally, we conduct survey targeting sellers who use Naver Smart Store frome 30th May, 2018 to 2nd June, 2018. Final data was 1407 sellers who use Naver Smart Store.

Results

We use XLSTAT for conducting multinomial logistic regression for calculating utility function suggested by McFadden (1974). After conducting conditional selection based conjoint analysis, we analyze the data by using choice model. With 30000 iterations, we calculate maximum likelihood estimation and utilities. To sum, most of sellers prefer to use product exposure request since Naver has a lot of users who have possibilities to use shopping platforms. In addition, this paper reveals that Biz Advisor also prefers to use by sellers. In case of the feature for the product exposure request, the aggregated utility is 0.6. On the other hands, the aggregated utility for Biz Advisor is bigger than 0.4

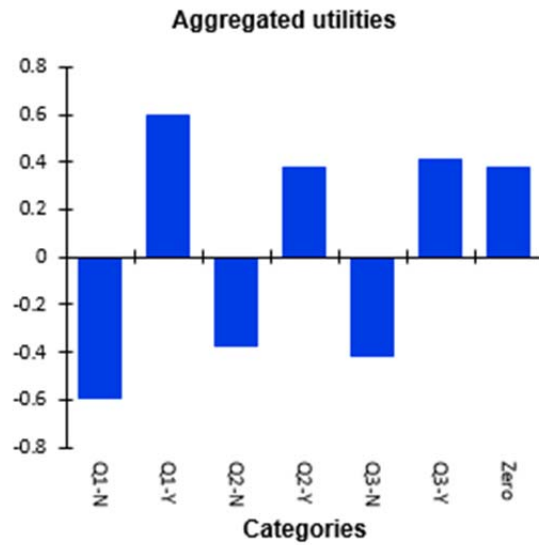


Figure 2. Utilities of Attributes

Contributions

This paper focused on the utility of online shopping platforms from the perspective of sellers. By conducting conjoint analysis, we can expect to illustrate the optimal utility of each features provided by online shopping platforms. By analyzing the WTP of certain web services, this study can suggest the optimal utility for various types of web services. The results of this research can provide guidelines regarding web services on online shopping platforms for sellers.

We can provide theoretical and practical contributions, respectively. Theoretically, this paper contributes to existing research on platform strategies. While existing research increasingly studied digital platform strategies or platform infrastructures (Woodard et al., 2013), most research focused mainly on platform providers or consumers. Since we consider the sellers' perspective in online shopping platforms, we can extend a two-sided understanding of digital platforms and open platform strategies. Practically, this paper contributes to the telecommunication literature by suggesting the issues platform users and providers need to focus on in order to manage online platforms successfully.

Reference

- Ballon, P. (2009). The platformisation of the European mobile industry. *Communications & Strategies*, Vol. 75, No. 3, pp. 15-33.
- Berman, S., Battino, B., & Feldman, K. (2011). New business models for merging media and

- entertainment revenue opportunities. *Strategy & Leadership*, Vol. 39, No. 3, pp. 44-53.
- Green, P., & Srinivasan, V. (1990). Conjoint analysis in marketing: new developments with implications for research and practice. *The Journal of Marketing*, Vol. 54, No. 4, pp. 3-19.
- Huang, Z., & Benyoucef, M. (2013). From e-commerce to social commerce: A close look at design features. *Electronic Commerce Research and Applications*, 12(4), 246-259.
- Mcfadden, D., 1974. Conditional Logit Analysis of Qualitative Choice Behavior. In P.Zarembka (ed.), *Frontiers in Econometrics*. New York: Academic Press.
- Mahadevan, B. (2000). Business models for Internet-based e-commerce: An anatomy. *California management review*, 42(4), 55-69.
- Nikou, S., Bouwman, H., & de Reuver, M. (2014). A consumer perspective on mobile service platforms: A conjoint analysis approach, *Communications of the Association for Information Systems*, Vol. 34, No. 82, pp. 1409-1424.
- Srinivasan, S. S., Anderson, R., & Ponnayolu, K. (2002). Customer loyalty in e-commerce: an exploration of its antecedents and consequences. *Journal of Retailing*, 78(1), 41-50.