

Assessing Electronic Commerce Firms Participating in Rural Development Projects: A Customer-based Platform Brand Equity Perspective

Extended Abstract

Liguo Lou

College of Business Administration,
Chonnam National University
77 Yongbong-Ro, Buk-Gu, Kwang-Ju
61186, Korea
alexlou87@hotmail.com

Joon Koh

College of Business Administration,
Chonnam National University
77 Yongbong-Ro, Buk-Gu, Kwang-Ju
61186, Korea
kjoon@chonnam.ac.kr

Hyun Shik Yoon

College of Business Administration,
Chonnam National University
77 Yongbong-Ro, Buk-Gu, Kwang-Ju
61186, Korea
Dr.Yoon@chonnam.ac.kr

Sang-Joon Lee

College of Business Administration,
Chonnam National University
77 Yongbong-Ro, Buk-Gu, Kwang-Ju
61186, Korea
s-lee@jnu.ac.kr

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Digital transformation has created various social and business challenges and opportunities (Majchrzak et al., 2016). Electronic commerce (e-commerce), as one of the typical ICT utilization, can serve as a powerful facilitator for developing the rural economy, in which the e-commerce firm (e.g., Alibaba.com) endeavors to ultimately establish a self-organizing *rural e-commerce ecosystem* for all actors, such as consumers, platform providers, retailers, and producers/farmers, especially in developing countries (Leong et al., 2016). During this process, in addition to playing the role of online shopping marketplace providers, the e-commerce firm primarily plays the role of supply chain management (SCM). The concept of SCM is a digitally enabled inter-firm process capability that aims to satisfy customers' needs and enhance customer relationships by integrating the informational and technical, physical, and financial resources (Rai et al., 2006). The effects of e-commerce firms playing the role of SCM while participating in rural development projects are reflected in two aspects. First, as a powerful actor in rural development projects, the e-commerce firm actively collaborates with other stakeholders (e.g., government, agricultural cooperative, agricultural means of production company, third-party service provider, relevant expertise, e-tailer, etc.) to empower local product or service producers and offer them suitable and precise solutions, rather than only offers an online marketplace linking sellers and buyers. Second, these co-creation activities can make producers improve the quality of product and decrease the cost of production. Therefore, e-commerce firms that build rural e-commerce systems are helpful for fighting poverty and promoting social development.

E-commerce firms invest a huge amount of financial, technical, and human resources in building rural e-commerce ecosystems to help underprivileged communities (Leong et al., 2016). In the society viewpoint, this contributes to developing the economy in remote rural regions; whereas viewed from the company perspective, as the essence of formulating competitive strategy is relating a company to its environments (Porter, 1980), developing the rural e-commerce system can be considered as one of their business strategies. For example, competent e-commerce firms, such as Alibaba and Amazon, are building their rural e-commerce systems. According to Porter (1980), an e-commerce company can use this competitive strategy to increase the margin via implementing several support and primary business activities. These business activities consequently influence consumers' evaluations about firms, viewed from the consumer perspective. In this study, we aim to explore how consumers respond to an e-commerce firm participating in rural development. We have three research questions as follows: First, does an e-commerce firm's participation in rural development increase customer-based brand equity of the platform owned by this firm? Second, can it enhance consumers' social judgments about this firm? Third, do these social judgments play the mediating role in such relation?

Prior research suggests that business and marketing actions can improve customer-based brand equity (CBBE) (e.g., Keller, 1993; Stahl et al., 2012). CBBE is the "power of a brand lies in what customers have learned, felt, seen, and heard about the brand" (Keller, 2008, p. 48), which is a powerful predictor of customer relationships, long-term profit, and new customer attraction in the competitive environments (Stahl et al., 2012). Brand equity briefly refers to the value of a brand. In e-commerce research, platform brand equity is defined as consumers' preferences to the platform, which is an outcome of brand knowledge derived from e-commerce firms' marketing

activities. Platform brand equity could be an important issue in e-commerce research because it has the potential to lead to good platform-user relationships, consumers' platform preference and continuance usage, as well as new customer attraction. When an e-commerce firm participates in rural development via building the rural e-commerce systems, it can provide more unique products or services from remote regions to consumers and satisfy their needs and wants. As consumers interact with an e-commerce firm (e.g., Alibaba) primarily through using its shopping platform (e.g., Taobao), namely, consumers can buy the products or services from the rural development projects on Taobao, we first propose that an e-commerce firm's participation in rural development has the potential to promote customer-based brand equity of its online shopping platform. That is,

Proposition 1: Platform brand equity will be higher when consumers know the information of this e-commerce firm participating in rural development.

Fiske et al. (2002) propose a stereotype content model (SCM) describing that people tend to use two universal dimensions of stereotypes—warmth (i.e., one's positive intent) and competence (i.e., one's capability to pursue the intent) to make social judgments about others. As consumers always interact with firms and brands as partners, these two stereotypes can be used for describing how consumers perceive the social image of a company (Aaker et al., 2010). Further, following signaling theory (Connelly et al., 2011), an e-commerce firm that participates in rural development projects can signal its warmth and competence traits, being likely to make consumers perceive it is warm and competent. In this study, consumers' warmth perception of an e-commerce firm refers to consumers perceive that this firm is concerned about the welfare of rural residents and society at large, while consumers' competence perception of an e-commerce firm means that consumers perceive that this firm has the capability to pursue such positive intent. Thus, we propose the relations between an e-commerce firm's participation in rural development and consumers' perceived social image of this firm as follows:

Proposition 2: Consumers' warmth perception of an e-commerce firm will be higher when they know the information of this firm participating in rural development.

Proposition 3: Consumers' competence perception of an e-commerce firm will be higher when they know the information of this firm participating in rural development.

Further, Keller (1993) suggests that brand knowledge including brand awareness and brand image is crucial for strengthening CBBE. Also, brand image (association) has more effects on CBBE than brand awareness (Keller, 1993). Thus, when the brand awareness (i.e., platform familiarity) is controlled, the brand image, namely, consumers perceived the competence and warmth social image of this e-commerce firm are supposed to greatly affect the customer-based platform brand equity. So, we propose that consumers' warmth and competence perceptions of an e-commerce firm could play the mediator role.

Proposition 4: Warmth perception will mediate the effect of an e-commerce firm's participation in rural development on platform brand equity.

Proposition 5: Competence perception will mediate the effect of an e-commerce firm's participation in rural development on platform brand equity.

A survey-based experiment with different scenarios is used to test the proposed propositions. A single-factor between-subjects experimental design with two groups was developed. For manipulating the independent variable (e-commerce firm's participation in rural development), we prepared two different scenarios. The first scenario that only included captured Taobao's homepage picture and two sentences of introductions about Alibaba ("Alibaba group successfully did IPO on the NYSE on September 19, 2014." "Taobao is one of the online shopping platforms

owned by Alibaba group.”) was given to the control group (group 1). The second scenario that not only had the same content in the first scenario but also added the information about how Alibaba developed rural e-commerce systems adopted from the firm’s homepage (i.e., “... Alibaba group provides information, technology, financial, and logistical supports to village farmers. ...”) was provided for experimental group (group 2). Further, measurements of warmth and competence perceptions, platform brand equity as well as control variables (i.e., attitude and platform familiarity) were adopted from previous studies. All the items were measured on a 7-point Likert scale (1 = strongly disagree, 5 = strongly agree).

A pilot test with 67 students divided into two groups (group 1: 32 students vs. group 2: 35 students) from a university in China was conducted. Before experiment, we first checked all respondents’ attitude toward Alibaba and Taobao as well as familiarity with Taobao. The ad-hoc results showed that there was no difference between the two groups in attitude toward Alibaba ($M_{\text{group 1}} = 4.645$, $M_{\text{group 2}} = 4.788$, $p > 0.05$), attitude toward Taobao platform ($M_{\text{group 1}} = 4.839$, $M_{\text{group 2}} = 4.409$, $p > 0.05$), and familiarity with Taobao platform ($M_{\text{group 1}} = 4.433$, $M_{\text{group 2}} = 4.514$, $p > 0.05$).

Then, respondents in group 1 were provided with scenario that had no information about Alibaba’s participation in rural development, whereas respondents in group 2 were provided with another scenario that included information about Alibaba’s participation in rural development. After reading the scenario, respondents are asked to complete the survey. At the end of the questionnaire for group 1, we checked whether respondents had known Alibaba’s participation in rural development through two questions. (i.e., “Do you know Alibaba’s rural e-commerce system?” “Have you ever bought products or services from rural development projects via Taobao?”). Among 32 respondents, 2 respondents answered “Yes”, and therefore, these two samples were deleted.

The pilot test results show that platform brand equity is higher in the condition of consumers get information of Alibaba participating in rural development than in the condition of not getting this information ($M_{\text{group 1}} = 4.225$, $M_{\text{group 2}} = 4.986$, $p < 0.05$), suggesting that an e-commerce firm’s participation in rural development can promote the brand equity of platform it owns. Also, warmth perception is higher in the condition of consumers get information about Alibaba participating in rural development than in the condition of not getting this information ($M_{\text{group 1}} = 4.217$, $M_{\text{group 2}} = 4.771$, $p < 0.05$), implying that an e-commerce firm’s participation in rural development can increase its warmth social image. However, competence perception is not different between two groups ($M_{\text{group 1}} = 5.267$, $M_{\text{group 2}} = 5.638$, $p > 0.05$). This finding is consistent with Aaker et al.’s (2010) study, which suggests consumers’ stereotype associated with a for-profit organization (Alibaba) is higher on competence traits. Thus, no matter whether or not an e-commerce firm participates in rural development, consumers tend to think that a for-profit organization should be “competent”. Finally, the specific indirect effects tested by PLS bootstrapping approach indicates that warm perception can significantly mediate the effect of an e-commerce firm’s participation in rural development on platform brand equity (total path coefficient = 0.134, $p < 0.05$).

This study contributes to better understanding why e-commerce firms participate in rural development projects from the customer-based brand equity perspective. An e-commerce firm that branches out into rural e-commerce is a strategic decision, which represents its capability to integrate the operand and operant resources to co-create value with consumers. This business strategy can not only expand its business scopes but also promote its competitiveness through enhancing platform brand equity. Further, according to Aaker et al. (2012), for a for-profit organization, making itself land in the “golden quadrant” of competence and warmth—score high on both two dimensions can result in more positive consumer’s responses to it. This study

confirms that a competent e-commerce firm can seek to land in the golden quadrant by becoming warmer via participating in rural development.

In conclusion, the rural e-commerce is a three wins (win-win-win) business model that can benefit three major actors, namely, e-commerce firm (platform), e-tailors or producers in remote villages, and consumers, which highlights the essence of bright ICT. In particular, we believe that the topic of this paper is one of the obvious evidences of the bright ICT usage that can play a critical role in accelerating the rural development. We suggest that this business model is replicable and can be used to fight poverty, especially in developing countries. In addition, for a well generalization, by using Amazon's Mturk, an online survey-based experiment among a panel of developed country consumers who respond to Amazon's rural e-commerce systems in India can be conducted.

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