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How does breadth of external stakeholder co-creation influence innovation performance? Analyzing the mediating roles of knowledge sharing and product innovation☆

Stefan Markovic[a,*], Mehdi Bagherzadeh[b]

[a] Department of Marketing, Copenhagen Business School, Solbjerg Plads 3, 2000 Frederiksberg, Denmark
[b] Strategy and Entrepreneurship Department, NEOMA Business School, 59, rue Pierre Taittinger, 51100 Reims, France

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ABSTRACT

Co-creation can generate a multitude of organizational advantages, including improved innovation performance. While some studies have found that co-creating with several types of external stakeholders influences innovation performance positively, others have shown a negative effect. This contradictory empirical evidence highlights the need to unpack this relationship and examine which mediating variables can ensure that co-creating with various types of external stakeholders results in improved innovation performance. Accordingly, this article investigates the impact of breadth of external stakeholder co-creation on innovation performance, considering the mediating roles of knowledge sharing and product innovation. The paper draws on a cross-industrial sample of 1516 Spanish firms. Data are analyzed using a set of ordinary-least-squares regression models. Results show that breadth of external stakeholder co-creation is not directly related to innovation performance. Instead, this relationship is either fully mediated by product innovation, or follows the path through knowledge sharing and then product innovation.

1. Introduction

In the current socioeconomic scenario, firms that aim to gain and maintain competitive advantage need to generate relevant innovations (Sood & Tellis, 2005). This is why firms increasingly embrace co-creation initiatives (Kazadi, Lievens, & Mahr, 2016). Co-creation can be defined as an active, dynamic, and social process based on interactions and relationships between firms and external stakeholders, oriented toward the generation of new products (i.e., goods and/or services) (e.g., Ind, Iglesias, & Schultz, 2013). Although most definitions of co-creation capture the interactions and relationships between firms and multiple types of external stakeholders (e.g., customers, competitors, suppliers, universities, research institutions) (e.g., Faems, Van Looy, & Debackere, 2005; Ind, Iglesias, & Markovic, 2017), most empirical studies on co-creation have focused on investigating the dyadic interactions and relationships between firms and customers (Gyrd-Jones & Kornum, 2013). This is surprising, because several authors have argued that if firms want to realize the full potential of co-creation, they need to involve several types of external stakeholders in the process (e.g., Iglesias, Ind, & Alfaro, 2013; Ind et al., 2017). By embracing co-creation with various types of external stakeholders, firms can achieve a plethora of organizational advantages, including new ideas, risk reduction, cost efficiencies, speed to market, and innovation performance (e.g., Faems et al., 2005; Hatch & Schultz, 2010; Ind et al., 2017).

Despite recognizing all these potential outcomes of co-creating with multiple types of external stakeholders, several authors have emphasized the particular importance of innovation performance (e.g., Faems et al., 2005; Knudsen, 2007), which can be defined as the market effectiveness of new or significantly improved products (Faems et al., 2005; OECD-Eurostat, 1997). While some studies have found that co-creating with multiple types of external stakeholders influences innovation performance positively (e.g., Faems et al., 2005; Ferreras-Méndez, Newell, Fernández-Mesa, & Alegre, 2015; Tsai, 2009), others have shown a negative effect (e.g., Knudsen, 2007; Knudsen & Mortensen, 2011). These contradictory findings cause confusion about how firms can benefit from increasing the breadth of external stakeholder co-creation (i.e., the number of types of external stakeholders involved in co-creation). They bring to light the possibility that the relationship between breadth of external stakeholder co-creation and innovation performance is mediated by certain variables related to the co-creation process, which should be better managed in order to improve innovation performance. This highlights the need to unpack the

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* Corresponding author.
E-mail addresses: sm.marktg@cbs.dk (S. Markovic), mehdi.bagherzadeh@neoma-bs.fr (M. Bagherzadeh).

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relationship between breadth of external stakeholder co-creation and innovation performance so as to examine which mediating variables play a key role in ensuring the success of co-creating with multiple types of external stakeholders (Felin, Foss, & Ployhart, 2015).

Research has suggested that knowledge sharing with external and among internal stakeholders is crucial to successful co-creation initiatives (e.g., Foss, Laursen, & Pedersen, 2011; Majchrzak, Jarvenpaa, & Bagherzadeh, 2015). Knowledge sharing involves communicating or sharing information with external stakeholders (e.g., customers, suppliers, competitors, universities) and among internal stakeholders (i.e., the firm's own employees). On one hand, scholars have consistently argued that improving the communication and the exchange of relevant innovation-related information and ideas with participating external stakeholders is essential in any co-creation process (e.g., Iglesias et al., 2013; Vallaster & von Wallpach, 2013), because it can result in improved innovation performance (e.g., Ahamed & Skallerud, 2013; Chang & Ku, 2009). Accordingly, Faems, Janssens, Madhok, and Van Looy (2008) found that weak communication with external co-creation partners undermines interactions and knowledge sharing, leading to poor innovation performance. On the other hand, studies have also shown that knowledge sharing among internal stakeholders (i.e., employees) helps firms to better understand the external resources (i.e., external information, ideas, and insights) and to better assimilate and exploit these resources during co-creation processes, which in turn is likely to enhance innovation performance (Foss et al., 2011; Zobel, 2017). For example, Foss et al. (2011) showed that sharing knowledge internally about the external resources absorbed from organizational outsiders during co-creation processes boosts innovation performance. All this highlights the importance of studying knowledge sharing with external and among internal stakeholders as a potential mediator of the relationship between breadth of external stakeholder co-creation and innovation performance.

Apart from highlighting the key role of external and internal knowledge sharing in co-creation processes, research has also shown that firms can benefit from co-creation initiatives if they boost product innovation (Slater & Narver, 1998). Product innovation consists in developing new or significantly improved products (i.e., goods and/or services), and introducing them to the market (OECD-Eurostat, 1997). Accordingly, scholars have suggested that well-informed, networked, empowered and active external stakeholders can contribute effective ideas, insights and information to the co-creation of new or significantly improved products (e.g., Ind et al., 2013), which in turn can boost innovation performance (Jack & Powers, 2015; Li, Wang, & Liu, 2011). In fact, Zhou, Li, Zhou, and Su (2008) showed that understanding customer needs and capturing their insights does not directly result in better innovation performance (measured by return on assets), but it helps firms improve their product quality, which in turn enhances innovation performance. This highlights the importance of examining product innovation as another potential mediator of the relationship between breadth of external stakeholder co-creation and innovation performance.

Overall, this study aims to overcome the current contradictory understanding of how breadth of external stakeholder co-creation influences innovation performance, by unpacking this relationship and including two relevant mediators: knowledge sharing and product innovation. To achieve this research objective, the paper draws on a cross-industrial sample of 1516 Spanish firms. The data were collected by the fifth wave of the Spanish version of the core Eurostat Community Innovation Survey (CIS 2008), and we analyzed them using a set of ordinary-least-squares regression models (Edwards & Lambert, 2007; Hayes, 2013). Results show that breadth of external stakeholder co-creation is not directly related to innovation performance. Instead, this relationship is either fully mediated by product innovation, or follows the path through knowledge sharing and then product innovation. This implies that involving more types of external stakeholders in co-creation does not result in improved innovation performance, unless: (1) it first results in the development of new or significantly improved products and their introduction to the market (i.e., product innovation); or (2) it enriches internal and external knowledge sharing, and then this enriched knowledge sharing boosts product innovation. This clarifies the current misunderstanding in the literature over how firms can benefit from co-creating with various types of external stakeholders, by suggesting that to turn breadth of external stakeholder co-creation into improved innovation performance firms must improve product innovation and knowledge sharing. While most previous studies have only examined the direct link between breadth of external stakeholder co-creation and innovation performance (e.g., Faems et al., 2005; Knudsen, 2007; Tsai, 2009), this study contributes to the literature by highlighting that an exclusive focus on the number of external stakeholders involved in co-creation initiatives cannot provide an accurate estimation of the effect of breadth of external stakeholder co-creation on innovation performance. Instead, relevant mediators related to the co-creation process (i.e., product innovation and knowledge sharing) need to be taken into consideration. In addition, while most previous research found that knowledge sharing with external and among internal stakeholders is positively related to innovation performance (e.g., Luca & Atuahene-Gima, 2007; Zhou & Li, 2012), we find that this relationship is not significant. Instead, our results show that it is fully mediated by product innovation, which implies that knowledge sharing only leads to improved innovation performance if it first results in the development of new or significantly improved products and their introduction to the market.

In the following sections, first the theoretical background and hypotheses are developed. Thereafter, the research methodology, data analysis, and results are presented. Finally, the theoretical contributions, managerial implications, limitations, and future research lines are discussed.

2. Theoretical background and hypotheses development

2.1. The direct link between breadth of external stakeholder co-creation and innovation performance

Collaborating with various types of external stakeholders, such as customers, suppliers, competitors, universities, and research institutions, to co-create products (i.e., increasing the breadth of external stakeholder co-creation) provides firms with access to a wide range of external resources, including information, insights and ideas (e.g., Iglesias et al., 2013; Ind et al., 2017). The more external stakeholders the firm involves in co-creation processes, the more external resources it will be able to capture (Hagedoorn, 1993). In addition, as the company increases the number of external stakeholders involved, the diversity of external resources also increases, as different external stakeholders provide different types of information, insights, and ideas. This plurality and diversity of external resources can contribute to create products that are more relevant to customers, and thereby the risk of non-acceptance of new products in an ever more competitive marketplace is likely to decrease (e.g., Ind et al., 2013). Furthermore, collaborating with a great number of external stakeholders to capture their individual resources can increase the firm's technological capabilities over time, facilitating technology use in co-creation, and reducing product development duration and costs (Helfat & Peteraf, 2003). By reducing the risk of non-acceptance of new products in the marketplace and product development duration and costs, co-creation is likely to provide firms with many benefits, including improved innovation performance (e.g., Tsai, 2009), which is usually operationalized with financial measures, such as sales, turnover, profits, and return on investment (e.g., Du, Leten, & Vanhaverbeke, 2014; Faems et al., 2005). In this line, the resource-based view, extended to cover cooperative company relationships with external stakeholders (Eisenhardt & Schoonhoven, 1996; Kull, Mena, & Korschun, 2016), suggests that access to external resources enables firms to combine