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Heading for new shores: Do service and hybrid innovations outperform product innovations in industrial companies?

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ABSTRACT

This study investigates the financial outcomes of product, service, and hybrid innovations in industrial markets. To date, empirical research has focused on product innovations, yet industrial firms are increasingly competing with innovative services to maintain their competitive edge. This study assesses the financial impact of service and hybrid innovations compared with more traditional product innovations. We develop a unique data set that combines information on companies' innovation activities with objective financial data. From a sample of 348 German industrial firms, the analysis reveals that service innovations do not outperform product innovations in industrial markets. A focus on service innovations only pays off in highly price-conscious markets. In contrast, hybrid innovations, referring to the simultaneous market introduction of new products and services, have a positive effect on firm performance above and beyond pure product innovations. This effect is particularly pronounced in competitive markets and under conditions of high customer concentration. In sum, this study demonstrates that hybrid innovations outperform both, pure product and service innovations in industrial markets.

1. Introduction

Challenged by intense competition and an ever-growing need to differentiate their market offerings, industrial firms have become more innovative, to sustain or further improve their competitive advantage (Gebauer, Gustafsson, & Witell, 2011; Matthyssens, Vandenbempt, & Berghman, 2006; Neu & Brown, 2005). Innovation refers to the market introduction of original or significantly improved goods or services new to the enterprise (e.g., OECD, 2005). Product innovations have long been viewed as the most promising path for industrial firms to strengthen their core business (Artz, Nordmann, Hatfield, & Cardinal, 2010; Wuyts, Dutta, & Stremersch, 2004). However, in recent years many industrial firms have shifted their innovation efforts from designing and introducing new physical goods to developing and selling new services (Fang, Palmatier, & Steenkamp, 2008; Jacob & Ulaga, 2008).

As a senior manager of Wincor Nixdorf, a German manufacturer, noted, "growing pressure on margins, increasing competitive dynamics, shifting customer needs and many other challenges have been confronting retail banks and retail businesses for some time now. More than ever before, innovative services … are necessary in order to ensure that a business stands out among the competition." Consequently, Wincor Nixdorf introduced a wide range of new services over the past years such as cash cycle management solutions. However, this new focus on the service business came at the expense of its traditional focus on innovative products. Wincor Nixdorf redirected its innovation efforts from goods to services and thus redefined the way it competes in the market. To date, the new focus on the service business is not flying as the firms' gross profit fell by almost 15% in 2012 at modest increases in net sales (Wincor, 2013).

Wincor Nixdorf is not a unique case. Many industrial firms, including Claas (tractor manufacturer), Michelin (tire manufacturer), Hilti (power tools manufacturer), and Hochtief (construction), have shifted – with varying success – focus from innovative products to services. Acknowledging the importance of the service transition, managers of industrial firms face two options. First, the product side remains the core business activity, and service innovations are added as complements. Industrial firms then compete with a combination of new goods and services in the marketplace, a process referred to as hybrid innovation (Shankar, Berry, & Dotzel, 2009; Ulaga & Reinartz, 2011). We define hybrid innovations as the simultaneous market introduction of new products and services that are intended to add value to targeted customers

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(Rowley, Baregheh, & Sambrook, 2011). Second, the service business becomes the new flagship for competition. In focusing on this new pillar, firms shift their resources and management attention from the product to the service innovation domain (Kindstroem, Kowalkowski, & Sandberg, 2012). Service innovation is then treated as a substitute for product innovation, as exemplified in the Wincor Nixdorf case.

Extant research has only recently begun exploring the financial benefits of competing with products and services in industrial markets. Most notably, Fang et al. (2008) investigate the effectiveness of service transition strategies in industrial markets, finding that the service business requires a critical mass in the range of 20%–30% of total sales to positively affect shareholder value. In a recent qualitative study, Ulaga and Reinartz (2011) identify key success drivers of combining industrial goods and services. They show that industrial firms need to learn how to leverage their unique resources and build distinctive capabilities to grow with hybrid offerings. In a similar vein, Kindstroem et al. (2012) stress the constant challenge of balancing available resources to secure the interests of both product and service innovations.

To shed more light on this important area of innovation research, we investigate whether service and hybrid innovations outperform product innovations in industrial markets. Extant research indicates that the financial implications of innovation activities are contingent on a given context. For example, Fang et al. (2008) show that the success of service transition strategies depends on both firm (e.g., slack resources) and industry characteristics (e.g., market growth). In support of this view, scholars have called for further research on the moderating variables affecting the success of innovation activities (e.g., Melton & Hartline, 2010, 2013). We explore how three key moderator variables – namely, customer concentration, competitive intensity, and price consciousness – affect the strength of the innovation and financial performance relationship.

This study relies on a unique dataset that combines two sources and employ robust ordinary least squares (OLS) regression to test our hypotheses on a sample of 348 German industrial firms. Merging data from two independent sources enables us to link self-reported innovation activity measures to objective performance data. Our analysis reveals a negative performance impact for industrial firms that focus on service innovation at the expense of product innovation. A focus on service innovation only pays off when customers are highly price sensitive, indicating commoditization of the product core. For firms innovating in both areas (new products and services), we find positive performance effects of hybrid innovations that are particularly strong under conditions of high competitive intensity and high customer concentration.

Against this background, our study contributes to the literature in four important ways. First, to the best of our knowledge, this is the first quantitative study to examine the impact of hybrid innovations on firm performance, thus highlighting the critical role of the simultaneous deployment of new goods and services. Second, in comparing service and hybrid innovations with the traditional product business, this study disentangles the effectiveness of three innovation types. Specifically, our findings extend prior studies focusing on either services or goods–service combinations (Kindstroem et al., 2012; Ulaga & Reinartz, 2011). By comparing innovation types, we find that only hybrid innovations have a positive effect on firm performance over and above pure product innovations. Third, we improve current knowledge on the conditions affecting the financial performance of innovation activities. Our moderation analysis reveals that the positive impact of hybrid innovations on performance is stronger in highly competitive environments with a highly concentrated customer base. In contrast, service innovation pays off in highly price-conscious markets. Fourth, this study merges two datasets to link objective performance measures (i.e., return on investment [ROI]) to self-reported innovation activities. Thus, this study overcomes potential biases caused by subjective performance metrics and avoids common method bias concerns. Although the use of objective measures is highly recommended (Szymanski, Kroff, & Troy, 2007), many studies in service innovation research rely on subjective, self-reported measures.

The remainder of this article proceeds as follows: After developing our hypotheses, we present the methodology, specify our model, and detail findings from our hypotheses tests. From these insights, we derive managerial and policy implications. The article concludes with a discussion of limitations and further research directions.

2. Theoretical background and hypotheses

Service innovation research has moved beyond its initial business-to-consumer focus to a stronger interest in business-to-business markets (Gummesson, 2011; Spohrer, 2011). Most recently, scholars have emphasized actor-to-actor processes, including ecosystems with a wide range of actors (Ford, 2011). This view describes markets as systems of actors, each serving one or more other actors (Kohli, 2011), and highlights inter-organizational relationships as a means to foster service innovation success (Melton & Hartline, 2010). Despite the growing body of research on service innovation (e.g., Droege, Hildebrand, & Forcada, 2009), many gaps in the literature remain (Jacob & Ulaga, 2008). One of the more fundamental questions concerns the financial outcomes of service and hybrid innovations (Barczak, 2012).

In recent years, marketing has evolved toward a service-dominant (S-D) logic (Vargo & Lusch, 2004, 2011; Spohrer, 2011) through which innovations can be assessed. Many scholars view the S-D perspective as particularly suited for studying service innovations because it moves away from the traditional logic rooted in tangible goods (e.g., Ordanini & Parasuraman, 2011). In S-D logic, service involves "the application of specialized competences (operant resources — knowledge and skills), through deeds, processes, and performances for the benefit of another entity or the entity itself" (Vargo & Lusch, 2008, p. 26). Attention is shifted from production of goods to the co-creation of value with the customer (e.g., Ford, 2011; McColl-Kennedy, Vargo, Dagger, Sweeney, & Van Kasteren, 2012; Vargo & Lusch, 2006). As service is the fundamental basis of exchange (Kohli, 2011; Vargo & Lusch, 2004), goods are considered mere distribution mechanisms for service provision, and the traditional boundaries between goods and service lose their relevance from the customers' point of view (Gummesson, 2011; Jacob & Ulaga, 2008).

For the purpose of this article, however, we distinguish between goods- and service-based innovations. We agree with literature criticizing S-D logic for its tendency to neglect the suppliers' perspective on value creation and capture. As Ford (2011, p. 233) states: "S-D logic is primarily concerned with benefits provided for the customer alone." Although the customer seeks superior value in both goods and service innovations and may not necessarily care about the value distribution mechanism, both innovation types create different organizational challenges for the supplying firm (Homburg & Kuehnl, 2014). For example, industrial firms need different innovation cultures and processes, revenue mechanisms, sales personnel, and reward systems when competing with services (Kindstroem et al., 2012). Given these fundamental differences, we identify a need to disentangle the financial effects of product, service, and hybrid innovations.

We adopt a resource-advantage (RA) perspective to theorize the financial performance outcomes of different service types (Chen, Tsou, & Huang, 2009; Hunt, 2013). RA theory extends the resource-based view (RBV), which describes firms as combiners of tangible and intangible entities (resources) the organization owns, controls or to which it has access (Hunt & Madhavaram, 2006). Whereas the RBV posits that these persisting resource endowments explain performance differences (Barney, 1991), in which the sheer possession of particular resources drives value creation, RA theory accounts for the market position of a firm (Hunt & Morgan, 1997). In other words, resources do not lead to competitive advantage per se; rather, they are raw materials with rent earning potential (Morgan, 2012). RA theory holds that companies achieve financial success by competing for superior resources that yield competitive advantages in one or more market segments, due to either lower resource costs and/or greater value in the market offering (Hunt & Morgan, 1996). Because innovations help firms lower their

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