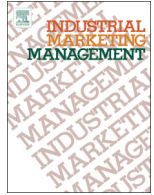




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## Industrial Marketing Management



## Examining the influence of service additions on manufacturing firms' bankruptcy likelihood

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### ABSTRACT

By evaluating secondary data from 74 bankrupt manufacturers and 199 matched non-bankrupt competitors, this study investigates the relationship of manufacturers' service offerings to their survival. While showing that the number of services offered is not significantly associated with bankruptcy likelihood, the results suggest that greater numbers of product-related and product-unrelated service offerings do reduce bankruptcy likelihood when properly complemented by firm-level contextual factors. Offering more product-related services causes bankruptcy likelihood to decrease for those companies that have a sufficiently diversified product business. In turn, companies with sufficient slack resources can expect bankruptcy likelihood to be reduced from the offering of more product-unrelated services. In contrast, companies should not expect that successful product sales performance will increase their chances of survival by focusing on product-dependent services. In light of these findings, this study challenges the notion from conceptual literature that additional services per se increase the chances of firm survival; it extends prior empirical studies in uncovering critical firm-level context effects; and it proposes portfolio theory as a theoretical foundation to examine manufacturers' service expansions.

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### 1. Introduction

Faced with commoditisation and low cost competition, industrial companies are looking to services for survival (Ostrom, Parasuraman, Bowen, Patricio, & Voss, 2015). In particular, many manufacturing firms have upgraded their commercial offerings with the inclusion of value-added services previously performed by customers and/or third parties (Reinartz & Ulaga, 2008; Shankar, Berry, & Dozen, 2009; Suarez et al., 2012; Steiner, Eggert, Ulaga, & Backhouse, 2016). Indeed, reconfiguring the total offering towards service provision is regarded as a sine qua non for surviving and prospering in contemporary product industries (e.g. Cohen et al., 2006; Bitner & Brown, 2008; Johnstone, Dainty, & Wilkinson, 2009; Eggert, Thiesbrummel, & Deutscher, 2015). Researchers interpret this transformation of manufacturers' business strategies as a shift to service-dominant logic, service-based value propositions, service-oriented business models, and service-driven manufacturing (Kindström & Kowalkowski, 2009; Steiner et al., 2016; Windahl, 2015).

The service strategies of product companies can materialise in very different offerings, ranging from financial to professional services,

including consultancy, R&D, technical support, and integration of multi-vendor products and services into customised solutions (Antico, Moenaert, Lindgreen, & Wetzel, 2008; Kohtamäki, Partanen, & Möller, 2013a; Rabetino, Kohtamäki, Lehtonen, & Kostama, 2015). Conceptual literature argues that adding such services to core product offerings improves firm performance. Yet, anecdotal accounts also reveal that companies are starting to withdraw, rather than extend, service offerings. For example, leading technology and industrial machinery providers that for a long time have been committed to continuously redefining their market offerings towards more extensive "life-cycle" (Rabetino et al., 2015) services are now seen to divest significant service activities. Examples include Johnson Controls disengaging from the provision of facility management services (Global Workplace Solutions), Voith divesting its Industrial Services (industrial maintenance for automotive and process industries) division, and ABB disposing of its Full Service (maintenance outsourcing) division. In a similar vein, some recent studies (cf. Eggert, Hogreve, Ulaga, & Muenkhoff, 2011; Kohtamäki et al., 2013a) find empirical evidence that increasing services does not improve profit performance per se. Rather, these studies suggest that the effects of broader service offerings depend on other firm "contextual factors" (Josephson, Johnson, Mariadoss, & Cullen, 2015), and that this link is further influenced by the service category.

Against the backdrop of such research findings and cases, the present study posits that additional services fail to consistently exert a direct effect on company performance, in contrast to the positive effect

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assumed so far by the mainstream conceptual literature (e.g. Gebauer, Friedli, & Fleisch, 2006; Mathieu, 2001; Mathysens, Vandernbempt, & Bergman, 2006; Oliva & Kallenberg, 2003; Penttinen & Palmer, 2007). We propose that the performance impacts of service offerings should more realistically be conceptualised as a function of the firm context. Accordingly, we investigate specifically how the impacts of more extensive offering of different services on manufacturing companies' performance are moderated by other firm-level contextual factors.

Drawing on portfolio theory, our theoretical framework suggests that important interplays between service offerings and firm context encompass two primary dimensions: resource consistency and cash flow synergy. Resource consistency entails the congruence, alignment and coherence of the services offered with the existing resource endowments of the firm. Cash flow synergy reflects the ability of services to compensate for volatility of product demand, thereby stabilizing total sales revenue. These interplays provide support to the fit of a service offering with an efficient and effective use of resources, and thus are likely to favourably affect its impact on company performance.

Previous empirical studies on the performance effects of service strategies have focused on accounting- or market-based measures of firm performance. Although the use of these well-understood performance indicators has provided valuable insights into the outcomes of service provision, this approach has certain limitations. While accounting- and market-based measures may serve as predictors of long term success, survival is arguably the ultimate measure of organisational performance (e.g. Drucker, 1954). Moreover, as previously outlined, many firms actually expand into services in order to survive shakeouts of their product industries. Given these accounts, our study proposes a survival analysis. It examines a sample of 74 bankrupt and 199 non-bankrupt service-oriented companies to determine bankruptcy likelihood in relation to service diversification and firm-level context, using secondary data and logistic regression analysis.

The study makes several contributions. Firstly, by viewing service offerings through the lens of portfolio theory, we propose a novel theoretical foundation for investigating the phenomenon of manufacturers' expansion into services. Second, we assess how firm-level contextual effects can complement service additions to support firm survival, a critical but so far neglected topic. Thus, our findings contribute to advance the understanding of the impact of services on firm survival specifically and on performance in general. Third, we provide input to decisions concerning the configuration of service offering expansions, helping managers devise an effective service strategy. In sum, we challenge the notion that service additions make consistently positive contributions to manufacturing firm performance, and instead demonstrate the important role of several contextual factors as moderators of performance effects.

## 2. Background

### 2.1. Services as part of the portfolio

Studies that conceptually discuss the adoption of services by manufacturing firms have proposed that a broader service offering brings benefits to the supplying firm. First, more services represent extra opportunities to generate sale revenues (Mathieu, 2001; Oliva & Kallenberg, 2003). Second, a broader service portfolio has the potential to improve the total offering's differentiation ability. An offering including more services tends to be more unique, difficult to imitate for competitors and valuable to customers (Malleret, 2006). More services enable greater flexibility of the offering as they can be combined into solutions to customer-specific needs (Cook, Bhamra, & Lemon, 2006; Gebauer, Gustafsson, & Witell, 2011). The positive experience of being offered something that they perceive as unique generates customer satisfaction, loyalty, and willingness to pay (Eggert et al., 2011). At the same time, a more extensive service portfolio has higher market visibility and encourages the perception of value among the customer base

(Kohtamäki, Partanen, Parida, & Wincent, 2013b), enhancing perceived firm quality, creating trustworthiness, and improving differentiation. Improved differentiation has consistently been shown to allow a firm to alter its competitive stance and remove itself from price-based competition, thereby achieving higher profit results and enhancing its chances of survival.

Third, with customers increasingly expecting suppliers to provide comprehensive bundled offerings that fully satisfy their needs (Kohtamäki et al., 2013a), a broader service portfolio can increase quality and longevity of customer relationships (Gebauer, Krempf, & Fleisch, 2008). In addition, comprehensive offerings are reported to lock-in customers via high switching costs (Reinartz & Ulaga, 2008), which increases repeated sales and reduces volatility of future cash flows. Finally, offering more services provides a basis for efficiency improvements. By including more services in the total offering, a manufacturing firm can spread some of the fixed costs of service production and boost organisational learning through repeated use of resources and capabilities (Eggert et al., 2011; Eggert, Hogreve, Ulaga, & Muenkhoff, 2014a). Resource sharing and learning effects are well known to reduce the cost of resource accumulation and help firm survival (Garratt, 1987).

Despite these arguments, empirical research on manufacturers' service growth strategies fails to confirm a consistent direct impact of offering more services on company financial outcomes. Studies that identify positive performance effects from increased services measure the level of service provision through the share of total revenue generated by services (e.g. Fang, Palmer, & Steenkamp, 2008; Kohtamäki et al., 2013a; Suarez, Cusumano, & Kahl, 2013), the amount of service sales (e.g. Visnjic & Van Loy, 2013), the quality (reliability, credibility and responsiveness) of service provision (He & Lai, 2012), or the activeness with which services are offered to customers (Kohtamäki et al., 2013b). Importantly, only the latter measure (activeness) constitutes an assessment of the *extent* of service offering; the other three measures are indicators of the *success* of service offerings (see, e.g., Antioco et al., 2008; Han, Kuruzovich, & Ravichandran, 2013), and so a relationship with company performance would be almost guaranteed. Using a more comprehensive measure of service strategy orientation that includes the number of services offered, Homburg, Hoyer, and Fassnacht (2002) find that servitization has a positive impact on company performance. However, Antioco et al. (2008) find that only customer-oriented services, and not product-oriented services (cf. Mathieu, 2001) link significantly to increased product sales. Finally, both Eggert et al. (2011) and Eggert et al. (2014a) find that the extent to which firms offer either product-oriented or customer-oriented services is not directly associated with profitability.

Indeed, adding services can introduce several drawbacks for manufacturers. First, offering more services increases the need for resource commitments in service-specific assets, capabilities and infrastructure (Kowalkowski, Kindström, & Witell, 2011; Visnjic & Van Loy, 2013). High service sales and profit margins are often the outcome of essential investments by the firm (Gebauer & Fleisch, 2007). Extending the service offering may lead a firm to divert significant resources from other functional areas (e.g. the product business – cf. Fang et al., 2008; Kindström, Kowalkowski, & Nordin, 2012; Oliva, Gebauer, & Brann, 2012) and, most importantly, to spread resources too thinly over the range of services that it offers. Insufficient resource support often results in an inability to ensure the efficiency of service operations (Gröns & Ojasalo, 2004) and may hinder learning about possible cost savings in service production. Insufficient resources may also result in ineffective services that do not satisfy customers' expectations (Josephson et al., 2015; Zeithaml, Berry, & Parasuraman, 1988). Unsatisfied customers are more likely to defect and switch service providers, ultimately increasing the company's exposure to price-based competition and market failure. Further, resource shortage due to supporting a wider service portfolio may increase financial risks (Nordin, Kindström, Kowalkowski, & Rehme, 2011), making the company more exposed to failure during negative economic cycles and industry downturns.

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