

The effect of manufacturers' service transition on employee job satisfaction

*Antonios Karatzas (a.karatzas@uea.ac.uk)
Norwich Business School, University of East Anglia*

*Panagiotis Stamolampros
Norwich Business School, University of East Anglia*

*George Daskalakis
Norwich Business School, University of East Anglia*

*Nikolaos Korfiatis
Norwich Business School, University of East Anglia*

Abstract

Despite the increasing research interest in the implications of service transition strategies for manufacturers, scholars have paid only limited attention to how employees perceive of, and react to, such an important strategic redirection. This work examines the effect of service transition on the overall job satisfaction of employees, operationalised through their online reviews of their employer. The case of boundary spanning employees is specially examined, due to the nature of their role and their importance for effective and efficient provision of product-service offerings. Preliminary analysis reveals a weak (U-shaped) relationship between service transition and job satisfaction of boundary spanners exclusively.

Keywords: Servitization, job satisfaction, panel data

Introduction

During the last three decades, manufacturers of advanced Western economies have been adding services to their core corporate offerings to increase their competitiveness (Neely, 2008). This trend is often referred to as 'servitization' of manufacturing (Vandermerwe and Rada, 1988). Servitization has received considerable academic attention across management disciplines, and various implications of it have been examined. Research topics include the financial consequences of servitization (Fang et al., 2008; Neely, 2008), the appropriate organisational (re-)design (Neu and Brown, 2008), and the required change in competitive priorities (Baines et al., 2009) and supply chain relationship management practices (Bastl et al., 2012; Karatzas et al., 2016) for effective and efficient provision of integrated product-service offerings.

However, there has been very limited empirical research on the implications of this service transition for the employees of servitized firms (Johnstone et al., 2014). This is despite the many references to the need for a change in organisational culture and employee skills and attitudes for successful service transition (Miller et al., 2002; Oliva

and Kallenberg, 2003). This could involve the recruitment and selection of new staff with the right mentality (e.g. service-orientation), the development and upskilling of existing personnel, the re-design of tasks and job roles, and in general, the alignment of organisational factors with the manufacturers' newly formed (service-based) strategies (Neu and Brown, 2005). A question naturally arising from these observations, which has received limited attention to date, relates to how existing employees of these manufacturers perceive this strategic move towards the, possibly unfamiliar, domain of service provision. Does service transition influence their subjective perception of their job role, their employer, and consequently their job satisfaction? This is the overarching question guiding this research. Since employee job satisfaction increases firm financial performance (Symitsi et al., 2018), answering the question can have significant implications for manufacturers moving into services.

The question is all the more relevant to a certain class of employees, whose role undoubtedly changes when a manufacturer starts offering services. These are the boundary spanners, i.e. those individuals at the interface of an organisation and its external environment. Boundary spanners have started drawing the attention of servitization scholars, out of recognition that they are immensely important for the effective and efficient provision of product-service offerings (Storbacka, 2011; Roehrich and Lewis, 2014). During a manufacturer's service transition, the changing nature of its offering and its relationships with suppliers and customers, implies that the roles of boundary spanners embedded in these relationships will also need to change. For example, prescriptive servitization literature emphasized the need for customer-facing employees to possess excellent technical, relationship-management, and negotiation skills (Davies et al., 2006; Foote et al., 2001), and get motivated to sell something (service) that has been traditionally seen as a (free) add-on (Oliva and Kallenberg, 2003). Empirical research has started exploring how these individuals cope with the increase in frequency and intensity of buyer-supplier interaction (Prior, 2016), and the capabilities they need to develop to effectively support the provision of the offerings (Chakkol et al., 2018).

Against this backdrop, the objectives of this work are to examine; first, the relationship between manufacturers' service transition and the perceived job satisfaction of their employees, and second, whether the relationship is different for the subset of boundary spanners, due to the intricacies of their role.

Theoretical background and hypotheses development

Service transition and overall employee satisfaction

The literature suggests that manufacturers face considerable challenges when implementing a servitization strategy; sometimes, investment in extending the service business may even result in decreased profitability – the so-called 'service paradox' (Gebauer et al., 2005). Amongst the various obstacles that have been discussed, probably the most salient ones include inappropriate organisational culture, and insufficient capabilities to design, market and deliver the services (Neu and Brown, 2008; Oliva and Kallenberg, 2003). The main underlying issue is that resources need to be divided between a firm's existing core product activities (e.g. R&D, manufacturing improvements), and the new, service-related business. The lack of appropriate experience, skills, culture and capabilities to do this resource allocation efficiently and effectively, has been suggested as one reason for the negative short-run effect of service transition on firms' financial performance (Fang et al., 2008). As Fang et al. (2008) argue, in the early stages of service transition, top management will be primarily driven by cost considerations, leading to an attempt to integrate mixed organisational elements (e.g.

processes and culture) within the same business entity. But because successful service provision follows from a culture focused on people and customer relationships (Tuli et al., 2007), compared to success in a ‘traditional’ product market which largely depends on product value and innovation, it is possible for service transition to create internal confusion, tension and even conflict (Krishnamurthy et al., 2003). A ‘traditional’ manufacturer's product-driven capabilities may simply be insufficient for effective service development and provision (Burton et al., 2017). This implies that as the manufacturer’s top management starts implementing a service-based strategy, lower level employees may feel that they must deal with expectations that are incompatible (*role conflict*), that they lack the required information to perform their changing roles (*role ambiguity*), or may find themselves overloaded with demands that exceed their abilities (*role overload*). Job stressors such as role conflict, ambiguity and overload can reduce employees’ motivation, productivity (Fang et al., 2008) and consequently their satisfaction with their job (Singh, 1998).

However, as the manufacturer increases its service intensity, employees gain experience and learn their roles, whilst more service-oriented individuals join the organisation. The negative mechanisms at play (job stressors, confusion and uncertainty) will be gradually outweighed by the increase in knowledge and cooperation, the shift towards a more customer- and service-oriented culture, resource spill-overs between the product and service business, and the development of new skills (Feng et al., 2008). As a result, employees will feel more satisfied with their job. This suggests a U-shaped relationship between service intensity and employee satisfaction; at the early stage of service transition employees will become increasingly dissatisfied, until the manufacturer achieves a ‘critical mass’ of service activity, from which point onwards job satisfaction will increase. It is noteworthy that similarly shaped relationships between service transition and financial performance have been found for US manufacturers (Fang et al., 2008) and software providers (Suarez et al., 2013). Since there is growing evidence that high financial performance is an outcome of high job satisfaction (Symitsi et al., 2018), there are good theoretical reasons to expect the posited relationship. In summary, we hypothesise that:

Hypothesis 1: There will be a U-shaped relationship between the extent of servitization and overall employee satisfaction.

The case of boundary spanners

The literature points to a particular cultural and cognitive bias against services and service-specific values, because these are in contrast with traditional manufacturing goals such as standardization and efficiency (Bowen et al., 1989; Visnjic Kastalli and Van Looy, 2013). This bias against services during the early stages of the service transition will be more strongly manifested in the selling process. Salesmen who have been selling complex and expensive products find it hard to get motivated to sell intangible services that they traditionally saw as a free extra (Gebauer et al., 2005; Oliva and Kallenberg, 2003). As they are continually pushed by top management to change their mindset and develop new skills and capabilities, the level of their job stressors will rapidly increase, suggesting a steep decline in satisfaction with their job.

However, as manufacturers improve their service offerings and become more operationally efficient in supporting their products, boundary spanners like salesmen should start feeling more confident and comfortable with their role. In addition, the rapidly accumulating experience with sophisticated offerings, and the more frequent and closer interaction with customers and suppliers (Bastl et al., 2012) will help them develop their Adaptive Selling Behaviour (ASB) and Customer Orientation (CO). In a meta-

analysis (Franke and Park, 2006), these have been found to increase job satisfaction. Furthermore, in ‘solutions’ selling specifically, it has been found that boundary spanners learn to shift between different ‘service styles’, i.e. consistent behaviours that help them reconcile multiple tensions (Prior, 2016), in order to cope with the variable customer requirements. Besides, at the firm level, manufacturers will try to build talented customer- and supplier-facing personnel, that possess high levels of both technical and relationship-management capabilities (Johnstone et al., 2014). This will involve the recruitment of new boundary spanners with the necessary skills, or the training, development and upskilling of existing ones. This leads to the following hypothesis:

Hypothesis 2: The U-shaped relationship between the extent of servitization and job satisfaction will be relatively steeper for the set of boundary spanners.

It is also worthwhile to examine whether Hypothesis 2 holds for both customer-facing versus supplier-facing boundary spanners. Servitization literature mainly looks at the change in culture and mindset required from customer-facing employees, which intuitively would imply that Hypothesis 2 will be supported only for this subset.

Methodology

Data and variables

The focus of this study is on manufacturing firms with primary 3-digit North American Industry Classification System (NAICS) codes between 333 and 336. These include manufacturers of machinery (333), computer and electronic products (334), electrical equipment, appliances and components (335) and transportation equipment (336). These are the industries in which servitization has been most prevalent according to the literature, seemingly due the properties of the manufactured products (relatively long-life and complex). The strict focus on manufacturing industries that are clearly conducive to servitization excludes companies that are practically unlikely to sell product-service offerings due to the nature of their products (e.g. paper product manufacturers), while it indirectly controls for industry-level factors that could confound the relationship between the extent of servitization and employee satisfaction.

Following Fang et al. (2008), as a proxy for the extent of servitization of a manufacturer at any point in time, we compute their (what the authors called) *service ratio*. This is the proportion of a manufacturer’s total revenues in a year that comes from service activities. To obtain the required data, we use COMPUSTAT Business Segments because it provides firm sales revenues for different business operating segments, as defined by the firm’s management. From the description of these segments and their respective NAICS code, we categorise them into service and nonservice. We calculate the service ratio by taking the percentage of sales revenues from all service business segments compared to the total revenues of each firm in a given year.

To obtain a measure of *job satisfaction*, we first match our dataset with data supplied by Glassdoor, a job search engine and review website. We specifically make use of the ‘overall satisfaction’ rating (ranging from 1 to 5) of all employees of the manufacturers in our sample. Employee reviews begin in 2008, so this comprises the first period in our timeframe. For each firm-year until 2017, we average across all employees to get the overall employee satisfaction rating, and across all boundary spanning employees to derive the average job satisfaction of boundary spanners. To distinguish between boundary spanning and other job functions, we classify the aggregate role categories defined by Glassdoor. For example, reviews by employees categorised as ‘customer service’ and ‘purchasing specialists’ are classified as boundary spanners in our dataset. This also gives us the chance to distinguish between demand-side and supply-side boundary spanners, for separate analysis. As such, ‘customer service’ are demand-side

boundary spanners, while ‘purchasing specialists’ are supply-side. Over the 2008-2017 timeframe, we have 1468568 total reviews, 229372 of which come from boundary spanners, from 1456 manufacturers.

Various variables that could affect both the extent of servitization of the company and the satisfaction of its employees, are included in the models as controls. These include firm size (total revenues), profitability (ROA), overall performance (Tobin’s Q) and home country, as well as industry (primary 3-digit NAICS code). Crucially, because some manufacturers have begun their servitization ‘journey’ long before 2008, we control for the already achieved servitization level by averaging the service ratio over ten years prior to 2008 (1998-2007) for each manufacturer in the sample.

Estimation

The data have a panel structure, whereby the response variable (average job satisfaction of all, or just boundary spanning, employees), and the independent variable of interest (service ratio) are observed for the sampled manufacturers for a maximum of 10 consecutive years. It is thus a short, unbalanced panel. Average rating can take any value between 1 and 5, so it can be treated as continuous. As such, we estimate various appropriate Fixed and Random Effects panel data regression models. Our preferred (dynamic) specification includes the lagged value of the dependent variable, i.e. average rating at year $t-1$. We thus use an Arellano-Bover (1995) and Blundell-Bond (1998) dynamic panel estimation (System GMM) to determine the impact of service transition on employee satisfaction.

Results

No final results have been obtained because data collection is still ongoing. Preliminary analysis using a subsample of manufacturers and a subset of control variables, provides mild support for the hypothesized (U-shaped) relationship between service ratio and job satisfaction but just for boundary spanners.

Contribution

This study will add to the growing body of work examining the implications of the servitization of manufacturing for individual employees. From a practical standpoint, the results of this study can have important implications for the design of boundary spanning roles, and for how to manage these individuals during service transition.

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