**The Role of KIBs for Territorial Servitization: Evidence from Germany and Spain**

Emanuel Gomes

*Universidade Nova, Lisbon, Portugal*

Oscar F. Bustinza

*Universidad de Granada, Spain*

Shlomo Tarba

*University of Birmingham, UK*

Mohammad Ahmad

*University of Leeds, UK*

Zaheer Khan

*University of Kent, Kent, UK*

Abstract

Servitization requires an organizational effort for continuous transformation, since manufacturers move from selling goods to selling an integrated combination of products and services business. In this context, partnership with Knowledge-Intensive Business Service (KIBS) can enable the process of value appropriation sustained on the new services business generated. This study seeks to explain the role of KIBS in fostering territorial servitization within two European regions, Germany and Spain. In doing so, regional measures selected through the appropriate NUTS-2 code allowed us to develop a panel data comprising 285 region-year observations. From this panel data, territorial servitization was convening using two stages least squares estimators, and determined as the number of servitizing manufacturers over total manufacturers in a specific region and year. Results uncover critical measures that determine territorial servitization, KIBS deepening –a density variablemeasurint the number of KIBS over total firms in a specific region and year, exposure to trade–measured through the number of freights, and accumulated knowledge –measured through the number of patents are closely related to territorial servitization. This study contributes to understand the territorial impact of servitization throughout the mutually dependent collaborations between manufacturing firms and KIBS.

*Keywords:*territorial servitization, KIBS, knowledge, trade, regional studies

**Introduction**

The literature on industrial districts and clusters have traditionally analysed the additionalities at firm and territorial level from the cooperation of firms in the same industry (Aranguren, Maza, Parrilli, Vendrell-Herrero, & Wilson, 2014; Boix & Vaillant, 2010). The growing interest from product firms in entering the service sector to attract and retain industrial clients have opened the possibility for cross-sector operations and collaborations (Becattini, 2015; Vendrell & Wilson 2017).

Previous studies on servitization have devoted their attention to identify the main drivers (Vandermerwe & Rada, 1989), barriers and success factors of the servitization implementation process (Baines et al., 2017) and possible outcomes for manufacturing firms (Bustinza, Gomes, & Vendrell-Herrero, 2017). However, when evaluating the impact of servitization strategies, the emphasis has been primarily on the organizational level benefits and competitiveness (Rabetino, Kohtamäki, Lehtonen, & Kostama, 2015; Visnjic, Wiengarten, & Neely, 2016). An exception to this is the recent study by Lafuente, Vaillant and Vendrell-Herrero (2017), which provides evidence about the territorial impact of servitization in the development of vigorous manufacturing sectors and consequent job creation. The lack of studies about the territorial impact of servitization is surprising considering the priority that recent governments and policy makers from developed countries have been placing on the need for manufacturing revitalization. It is in this context, and in the inability to compete on the basis of cost advantages against manufacturers from emerging regions, that manufacturers from developed markets have been increasingly integrating value adding services into their offers as an attempt to compete on the basis of innovative differentiation (Chesbrough, 2011).

Though a vast amount of research in the economic and strategy fields have helped us understand the importance and impact of Porterian clusters and Marshallian industrial districts on agglomerative and interorganisational production processes (Becattini, Bellandi, Dei Ottati, & Sforzi, 2003; Lafuente, Vaillant, & Rialp, 2007), very little is known about the drivers and effects of Territorial Servitization, i.e. the “aggregated outcomes resulting from the various types of mutually dependent associations that manufacturing and knowledge-intensive service businesses create and/or develop within a focal territory” (Lafuente et al., 2017, pp. 2).

Therefore, the aim of this study is to investigate the antecedents of territorial servitization. While other studies highlight the virtuous circle involved in territorial servitization, i.e. how a local manufacturing sector stimulates and is simultaneously stimulated by the development of a complementary knowledge-intensive service sector, (Lafuente et al., 2017), a main empirical contribution of our study is that we develop the first measure of territorial servitization and test it in a multi-region context of two European countries. In addition, we also evaluate the impact of two other antecedents of territorial servitization, i.e. the exposure of the region to international trade and the availability of stock of knowledge in the region. Another contribution of this study is that it helps policy makers understand some of the conditions necessary to enhance the development of territorial servitization, and the consequent regional socio-economic growth. This is particularly important for developed economies attempting to revitalise innovative local manufacturing sectors (De Propris, 2016).

**Research Context and Methodology**

A unique dataset originated from different sources has been created. Data on KIBS density and territorial servitization (firm-level) is obtained from ORBIS, a dataset covering over 200 million firms worldwide, while aggregated information (regional-level) is provide by Eurostat. Data from these sources enabled us to create a panel dataset including 17 Spanish and 38 German regions for the period 2010–2014. The differences between these two European Union countries, one from central Europe and the other a Mediterranean country, provide an interesting context with clear implications in terms of EU funding outcomes. This is the case because though both are highly decentralized countries, German State and regions share decision structures and investment cost while Spanish regions have strong autonomy in decisions and cost assignment (Bürzel, 1999). Such facts are important for analysing the differences between the EU funding outcomes and diverging cohesion between regions (Charron, 2016).

**Preliminary Results and Managerial Implications**

Although it is true that servitization –and related concepts as product-service systems (Baines & Lightfoot, 2013), open service innovation (Chesbrough, 2011), or product-service innovation (Bustinza et al., 2017) – is being extensively analysed from an internal organizational perspective, few investigators are studying servitization through external determinants (Baines et al., 2017), as strategic alliances through KIBS, and even fewer are studying its impact at a regional level (Lafuente et al., 2017). Our study sheds light on the regional impact of KIBS deepening, trade, and accumulated knowledge and innovation levels resulting from territorial servitization.

On the whole, this research has implications for policy-makers. On the one hand, there is an opportunity for a European *manufacturing renaissance* underpinned by dynamics of manufacturing based on innovation and differentiation (De Propris, 2016) rather than on pure cost, as a way to prevent relocation to countries with lower costs. This renaissance should be based upon upgrading innovative manufacturing competences, an underlying characteristic of servitization. On the other hand, policy-makers need to consider regional autonomy in decisions and cost assignment in order to achieve the outcomes desired as this research has shown.

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