

INDUSTRY EVOLUTION IN THE U.K. CONSULTING SECTOR

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With the rise of the “service economy”, economists have begun exploring services and of particular interest to researchers in the last decade has been the explosive growth of Knowledge-intensive business services (KIBS). In this project we present a detailed longitudinal investigation of the UK engineering and design consulting sectors, an hitherto underinvestigated part of the service sector (NESTA, 2006), but one that has been leading in industry transformation (Mina, 2008). From the mid-1970s, employment in engineering consultancy services has grown 2.3% yearly, with value added growing even more rapidly at 6.1% yearly. This growth exceeds that of any other produce service sectors except for computer services, and is more accentuated in the UK than in almost any other European country (Kox & Rubalcaba, 2007; Toivonen, 2004). Despite their growing economic significance, our understanding of Professional Service Firms remains under-explored (NESTA, 2006). The need to develop understanding of these activities has become all the more pressing with the crisis in the financial sector, and the low likelihood that manufacturing will grow substantially in real terms. Engineering and design consultancies are considered to be of strategic significance as they are often at the leading edge of innovation practices and - alongside universities and the wide public science base - play an systemic important role in the development and diffusion of knowledge (Tether & Tajar, 2008).

A sizeable empirical literature on firm growth, exit and merger has developed in Industrial Organization (IO) Economics. This research has shown that industrial evolution is very heterogeneous across sectors, especially when it comes to services (Dosi, Gaffard, & Nesta, 2008; Geroski & Mazzucato, 2001). Yet, extant research has informed us about the differential pattern of firm evolution: entry, growth, and exit. For entry, the established research has documented that there are several types of entrants or “births” of firms such as (i) de-novo firms founded by independent entrepreneurs or (ii) Spin-offs – firms that used to be a division of an incumbent firm and subsequently achieved status as an independent entities, albeit often still with legal and/or financial ties to the parent firm. These different types of entrants have implications for the subsequent growth and survival of firms (Philips, 2001). In terms of growth, small firms are often acquired by an incumbent firm or one of its offspring due to a lack of resources to sustain further expansion, hence facilitating further expansion of the firm (Granstrand & Sjölander, 1990). In terms of survival, small firms often *merge with similar or complementary firms, especially* when one of them is already a member of a

formal company group or a group of collaborating firms (Ellis et al., 2008). Recent studies also that especially for new service-intensive firms, exit need not constitute a faultline of failure but the dynamics of consulting firms frequently entails firms that disappear as independent entities by merging or being acquired by larger firms (Phillips, 2001). For example, Mamede, Mota and Godinho (2007) show that knowledge-based service firms might have higher survival chances, and entry within such sectors are less responsive to incentives, highlighting the important role of engineering knowledge and inter-firm collaborative activities for the evolution of engineering and design consultancies. In this project we aim to further this line of research by explicitly investigating the interrelations between ‘contractor’ firms and larger project leading firms.

In this project we study the UK engineering and design consultancy sector over an extended period of time using a unique multi-level database assembled from the New Civil Engineer magazine’s survey of the industry since 1979. The database includes about 250 firms and detailed information including their size, proportion of engineering staff, activities by discipline and region, plus financial information such as fees and profits. We combine this with aggregate industry level data from the UK Office for National Statistics. Our investigation tracks how individual firms evolved over time, specifically addressing two inter-related research questions:

- *What is the role of small vs. large firms in firm dynamics (exit and entry)?*
- *What are the roles of R&D and market competition and for firm dynamics (exit and entry)*

To address these research questions, our project entails both an exploratory empirical analysis with aggregate sectorial descriptions, entry and exit rates among firms, as well as life-tables for each firm showing the birth, expansion, and exit of firms (Yamaguchi, 1991). Our data includes unique measures of engineering staff and project work within these firms to account for the interrelations between ‘contractor’ firms (usually smaller) and larger project leading firms. These variables are important because, as we argue in the below, one of the reasons that prior research has failed to document industry dynamics in Knowledge-Intensive Service firms involves the sometimes vague boundaries between “collaborating” firms and separate firm entities. With these analyses we hope to shed light on an important yet under-researched economic sector, and to present a number of empirical and theoretical contributions to research on industry evolution.

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