Strategic resource decisions to enhance the performance of global engineering services

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\textbf{ABSTRACT}

This paper extends our understanding of the internationalisation and firm performance (I-FP) relationship of service firms by considering the influence of strategic decisions on three types of slack resources. The research focuses on an important type of service operations — global engineering services, which are a major part of the global economy and represent a distinctive business model in the contemporary business environment. In doing so, we theorise the I-FP relationship by addressing the knowledge-intensive, project-based and people-centric features of engineering service firms (ESFs); and test the relationship with a carefully assembled dataset containing 12 years’ data from 242 ESFs. We identify a negative overall I-FP relationship, i.e. ESFs’ international expansion leads to worse financial performance in general. The presence of slack resources explains why such a result exists. Our findings have significant implications, both for future research on internationalisation and performance and for firms to effectively deploy their resources to support global service operations in a strategic manner.

\textbf{1. Introduction}

Understanding the relationship between internationalisation and firm performance has been a key task for senior decision makers. The task is particularly challenging in global service operations because the existing theoretical insights which might help to frame the decision making practices are mainly drawn from a manufacturing-focussed empirical ground (Capar & Kotabe, 2003; Chase & Apte, 2007; Contractor, Kumar, & Kundu, 2007; Harvey, Heineke, & Lewis, 2016; Heineke & Davis, 2007). However, service operations are substantially different from manufacturing in a number of distinctive features, e.g. heterogeneity, intangibility, perishability or inseparability (Greenwood, Li, Prakash & Deephouse, 2005; Karpen, Bove, & Lukas, 2012; Leowendahl, 2005; Lewis & Brown, 2012). Such different features of service operations may have significant implications for the relationship between their internationalisation and performance in ways that challenge the received wisdom as reflected in existing theories of internationalisation and firm performance (I-FP). It thus becomes a critical research task to understand the varying form of the I-FP relationship for service firms and eventually generate new knowledge to guide strategic decisions of global service operations in a sector-specific context.

While some important recent studies have made considerable progress in illustrating the features of service operations that may influence the I-FP relationship, there are still considerable unknown areas, both empirically and conceptually, regarding whether, how, why, and when internationalisation leads to improved firm performance (Contractor, 2012; Marano, Arregle, Hitt, Spadafora, & van Essen, 2016; Miller, Lavie, & Delios, 2016; Powell, 2014). Empirical research has generated very varied evidence (Contractor, Kundu, & Hsu, 2003; Contractor, 2012; Li 2007), which has prompted scholars to propose a range of contingencies in the relationship including the motives of internationalisation and the modes of internationalisation pursued (Contractor, 2012), home and host country institutional influences (Berry, Guillen, & Zhou, 2010), and the progress of developing institutional capabilities across borders (Carney, Dieleman, & Taussig, 2016). The highly ambiguous evidence-base has prompted scholars to propose increasingly refined conceptual models, especially those that pay increased attention to the roles of strategic decisions, such as those on geographic diversification (Wiersema & Bowen, 2011), product diversification (Oh & Contractor, 2012), learning approaches (Hsu, Chen, & Cheng, 2013), strategic alignment (Powell 2014), international coherence (Celo & Chacar, 2015), as well as international intensity, diversity and distance (Miller et al., 2016) in the I-FP relationship.

Within this context, we theorise that service firms’ strategic decisions on slack resources, which have been widely considered as the key
property enhancing the ability of an organisation to cope with challenges in the complex process of internationalisation (Cyert & March, 1963; Greenley & Ötkemgil, 1998; Mishina, Pollock, & Porac, 2004; Nohria & Gulati, 1996), are of critical importance for payoffs to their internationalisation. As pointed out by Bourgeois (1981, p30): “Slack […] allows an organisation to adapt successfully to internal pressures for adjustment or to external pressures for change in policy, as well as to initiate changes in strategy with respect to the external environment.” Specifically, we proposed that the overall I-FP relationship for service firms are governed by the presence of three types of slack resources (Mishina et al., 2004; Nohria & Gulati, 1996), i.e. absorbed slack human resources (AHR), other kinds of absorbed slack resources (OAR) and unabsorbed slack resources (USR). Albeit their obvious importance, such strategic resource decisions are very difficult to be made appropriately due to their complex implications in international service operations (Daniel, Lohrke, & Fornaciari, 2004; Tan & Peng, 2003). On the one hand, service firms need a certain amount of slack resources to expand their service operations in global business networks. On the other hand, a high level of slack resources may lead to a low utilisation rate, thus threatening firm performance. In brief, we believe that it is theoretically valuable and practically useful to investigate the I-FP relationship for service firms in the global context with a particular attention to examining the influence of slack resources.

We in our investigations focus on a particular type of service operations – global engineering services, which are typically knowledge-intensive, project-based, and people-centric, representing a distinctive business model of professional service firms in general (Lawendaal, 2005; Malhotra & Morris, 2009; Von Nordenflycht, 2010; Zhang, Gregory, & Neely, 2016). In doing so, we are able to generate theoretical insights potentially useful for a wider range of service firms which have attracted a growing research interest among IB scholars (Bello, Radulovich, Javalqi, Scherer, & Taylor, 2016; Shin, Mendoza, Hawkins, & Choi, 2017; Zhang, Zhong, & Makino, 2015). At the same time, the research focus itself has significant industrial implications. Global engineering services, as one of the largest professional service industries in the world, is an important part of the contemporary global economy, directly contributing to GDP and employment and indirectly providing critical inputs for organisations creating high value products and services across sectors. ISG (2013) estimated the global spend on engineering services to be around US$930 billion in 2012, rising to US $1.4 trillion by 2020. In addition, this sector provides a fertile context for reporting our findings due to the narrow time span and multiple service sectors covered in their datasets. Di et al. (2004; Malhotra & Gulati, 1996), i.e. absorbed slack human resources (AHR), other kinds of absorbed slack resources (OAR) and unabsorbed slack resources (USR). Albeit their obvious importance, such strategic resource decisions are very difficult to be made appropriately due to their complex implications in international service operations (Daniel, Lohrke, & Fornaciari, 2004; Tan & Peng, 2003). On the one hand, service firms need a certain amount of slack resources to expand their service operations in global business networks. On the other hand, a high level of slack resources may lead to a low utilisation rate, thus threatening firm performance. In brief, we believe that it is theoretically valuable and practically useful to investigate the I-FP relationship for service firms in the global context with a particular attention to examining the influence of slack resources.

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To report our research in a more accessible manner, the next section of the paper sets out the state of knowledge regarding the I-FP relationship for service (and non-service) firms. We formulate a set of hypotheses to advance our understanding about the I-FP relationship for ESFs by addressing their knowledge-intensive, project-based and people-centric features. We subsequently introduce our research approach, before reporting our findings. We finally conclude this paper by discussing the main contributions and suggesting directions for future research.

2. The I-FP relationship for service firms

In this section, we briefly review the state of knowledge regarding the relationship between internationalisation and firm performance, paying particular attention to a comparison between research focussing on manufacturing and service firms. Li (2007) provided a synthetic review of the I-FP theories. We updated his summary and produced the latest view of empirical studies on the I-FP relationship which consists of 56 studies in major IB journals based on their relevance to the topic as well as their contribution to the research method (see Appendix A). Our update confirms that over the past four decades the I-FP relationship has been an important research issue in literature, which is reflected in a large and growing body of academic research, including a number of meta-analyses (e.g. Geleilate, Magnusson, Parente, & Alvarado-Vargas, 2016; Li, 2007; Ruigrok & Wagner, 2004), the latest and most comprehensive of which identifies 359 studies of the I-FP relationship collectively encompassing 2.5 million firm-year observations (Marano et al., 2016). As mentioned earlier, the vast majority of the existing empirical I-FP studies were in the manufacturing sector. In a large number of empirical studies identified in our literature review, only 7 of them look into the service sector. These studies suggested five primary views about the I-FP relationship: (i) not significant, (ii) positive linear, (iii) negative linear, (iv) U-shaped and (v) inverted U-shaped. Our review indicates that such seemingly contradictory findings were caused by the different conceptualisation and measurement of the variables, the quality of data, and the methods adopted (see Appendix A). Nevertheless, they provided rich and constructive insights for international expansions of manufacturing firms.

The dearth of research into the I-FP relationship of service firms has been continuously reported. Contractor et al. (2003, p.9) claimed that “although services are more important than manufacturing [justified by their shares of GDP worldwide], there is little research on the growth and internationalisation of service firms”, and Capar and Kotabe (2003, p.345) repeated the message by saying that “a major gap in the literature has been the non-existence of studies that have examined the effect of international diversification on performance in service firms [although the relationship has been extensively investigated in manufacturing firms].” The message was reinforced by Greenwood et al. (2005, p.661) “despite their [service firms’] significance, little is known of the determinants of their performance”; and Contractor et al. (2007, p.407) – “it is ironic, therefore, that virtually all the empirical studies on performance versus internationalisation in the past 30 years have been in manufacturing”.

Having acknowledged this major gap and recognised the importance of the service sector in the global economy, a handful of studies examined the I-FP relationships of service firms (see Table 1, extracted from Appendix A). These studies discussed the differences between service firms and manufacturing firms and argued for a different trajectory of internationalisation for service operations. Although they provide a good start point for our research, there are major limitations to their findings due to the narrow time span and multiple service sectors covered in their datasets. Different kinds of services, for example knowledge-intensive and capital-intensive service firms (Shin et al., 2017), may operate very differently in international expansions. Studies aggregating data across multiple industries in general face more empirical obstacles (Delios & Beamish, 1999; Hannart, 2007; Powell, 2014). It is not ridiculously unreasonable to speculate that differences among the existing I-FP theories might result from the vast diversity of service firms in different operations settings. It is therefore more likely to advance our theoretical understanding of the I-FP relationship that might be influenced by strategic decisions among professional service firms (with ESFs as a typical example) that adopt a distinctive business model generally recognised by their knowledge-intensive, project-based and people-centric features (Lawendaal, 2005; Zhang et al., 2016).

3. Distinctive features of ESFs and theoretical development

We start our quest for an improved I-FP theory for service firms with a proper understanding of their distinctive features, beginning with ESFs that represent a knowledge-intensive, project-based, people-centric business model also adopted by a wider range of professional service firms. This allows us to assess their influences on the I-FP relationship, and thus possibly identifying additional theoretical constructs to reconcile contradictory views in literature.
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