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From blind spots to hotspots: How knowledge services clusters develop and attract foreign investment

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ABSTRACT

This paper explores local and global dynamics underlying the development of knowledge services clusters, which we define as new geographic concentrations of technical talent and service providers offering upstream technical and knowledge-intensive business services to regional and global clients. Taking a co-evolutionary perspective on the development of knowledge services clusters in Latin America, based on data from the Offshoring Research Network (ORN), we find that cluster growth results from intersecting trajectories: the emergence of local talent pools and capabilities initially serving local and regional demand; broadening global search for talent and expertise by multinational corporations; and internationalization strategies of service providers competing to serve global clients. Findings suggest that increasing commoditization of knowledge services opens up windows of opportunity for new clusters, but also involves challenges for sustainable growth. Results may stimulate future research on global sourcing and cluster development.

1. Introduction

In recent years, sourcing knowledge-intensive business services, such as software development, product design, R&D and analytical services, from emerging economies has become an established business practice (UNCTAD, 2005; Kenney et al., 2009; Manning et al., 2008). Knowledge services involve symbolic–analytical work, are typically more complex, and require higher-skilled personnel to be performed than administrative business services, e.g. payroll processing, and call centers. Multinational corporations (MNCs) source knowledge services from abroad mainly to tap into growing pools of qualified, yet often cheaper personnel and specialized expertise outside their home countries (e.g. Doh, 2005; Lewin et al., 2009). They do so either by setting up wholly owned subsidiaries (captive delivery models) or by contracting with specialized service providers (outsourcing) (Couto et al., 2008).

This trend has co-evolved with the development of knowledge services clusters—new geographic concentrations of technical science and engineering (S&E) talent and service providers offering upstream technical and knowledge-intensive business services, e.g. engineering, R&D, design, software and analytical services, for regional and global clients (see also Manning et al., 2008). A number of recent studies have examined the emergence of service capabilities and clusters particularly in India (e.g. Bresnahan et al., 2001; Dossani and Kenney, 2007; Athreye, 2005; Ethiraj et al., 2005). China has also been recognized as an emerging destination for sourcing product development services (Altenburg et al., 2007). However, recent studies suggest that Western MNCs, facing growing competition for talent, have increasingly broadened their global search for talent and expertise (e.g. Heijmen et al., 2009). At the same time, as knowledge services have become more commoditized, new second-tier knowledge

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services clusters, e.g. in North Africa and Latin America, have developed and begun to attract investment by Western client companies and international service providers (Couto et al., 2008).

Despite the increasing number of studies investigating sourcing location choices (e.g. Doh et al., 2009) and the emergence of service capabilities in emerging economies (e.g. Athreye, 2005), we lack an understanding of the dynamics underlying the more recent development of knowledge services clusters across the globe. In this study, we take a co-evolutionary perspective on the development of knowledge services clusters, based on the empirical example of Latin America. Using both quantitative and qualitative data of client investment decisions and provider capabilities, collected by the Offshoring Research Network (ORN), we explore inductively how Latin America has increasingly attracted foreign investment in a changing global sourcing context. Unlike previous studies which primarily focus on local factors contributing to cluster development, e.g. government policies, specialization of suppliers etc., (e.g. Dossani and Kenney, 2007; Athreye, 2005), we look at the intersection of global and local dynamics promoting cluster growth. Also, unlike previous studies, we show how increasing commoditization of services as well as the internationalization of service providers is currently changing the landscape of knowledge services sourcing.

Based on our empirical findings we construct a dynamic model of cluster growth in the global sourcing context to inform future research. In particular we seek to contribute to the emerging literature on knowledge services clusters and capabilities on the one hand (e.g. Athreye, 2005; Ethiraj et al., 2005), and sourcing strategies and location choices on the other hand (Doh, 2005; Doh et al., 2009). The rest of the paper is organized as follows: Section 2 presents the rationale for a co-evolutionary perspective to study the development of knowledge services clusters. Section 3 presents the data for Latin America. We combine some quantitative and qualitative data as a way to further develop our co-evolutionary perspective. Section 4 presents the discussion and develops from the data a dynamic model of cluster growth that is fully coherent with the co-evolutionary perspective. We end with some policy as well as managerial implications, and with follow-up ideas for future research.

2. The development of knowledge services clusters: a co-evolutionary perspective

Clusters in general have been defined as "geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g., universities, standards agencies, and trade associations) in a particular field that compete but also cooperate" (Porter, 2000, p. 15). The concept relates back to Marshall's well-known concept of industrial districts, which are characterized by concentrations of industry players, pools of readily available labor, and a knowledge base shared by a local community of firms and professionals (Marshall, 1920). All these features—geographic concentration of related firms, specialized labor pool, professional community—apply well to more traditional industry clusters in advanced economies, such as the textiles cluster Emilia Romagna in Italy (Piore and Sabel, 1984) or the IT cluster Silicon Valley in the U.S. (Saxenian, 1994). However, they can also be found in a relatively new type of cluster—knowledge services clusters.

Knowledge services clusters provide technical talent and knowledge-intensive, upstream business service capabilities, and are strongly oriented to and dependent on global rather than just local or regional demand for such talent and capabilities. Examples include the IT and software services cluster Bangalore in India (Bresnahan et al., 2001; Dossani and Kenney, 2007), and the emerging science and analytical services clusters Moscow and St. Petersburg in Russia (see also AT Kearney 2004; Global Services, 2008). Their emergence is a fairly recent phenomenon, facilitated by advanced ICT supporting long-distance service delivery; the increasing commoditization of knowledge-intensive business services; the development of technical universities producing high-skilled technical talent in emerging economies; and the emergence of more or less specialized knowledge service providers (Metters and Verma, 2008; Apte and Mason, 1995; Athreye, 2005; Manning et al., 2008).

Two features in particular—their focus on technical talent and knowledge services, and their strong global orientation—make them quite distinct from most traditional industry clusters. On the one hand, knowledge services clusters develop around the provision of technical talent and upstream knowledge services rather than manual labor and the manufacturing of goods. Knowledge services can be recognized by their symbolic–analytical and partially intangible nature and the need for higher-skilled technical talent and expertise to perform these services (Drucker, 1959; Reich, 2001). Examples include software programming, engineering, product design, research, and analytical services. Unlike clusters which are organized around the manufacturing of material goods, e.g. textiles, automotive parts or electronics, or the sourcing and processing of natural resources, e.g. wine, knowledge services clusters typically depend less on certain geographic conditions, e.g. climate or natural resources, nor do they necessarily build on craft traditions in a particular region. Also, unlike manufacturing clusters which often attract geographically proximate clients due to logistical advantages, knowledge services clusters are supported by advanced ICT which allows service delivery across long distances at relatively low costs (Metters and Verma, 2008; Blinder, 2006). However, unlike lower-skilled administrative work, e.g. payroll processing, knowledge services do require qualified personnel who cluster around technical training institutions and universities, and who form local networks and communities which become important infrastructures supporting cluster formation.

On the other hand, knowledge services clusters are strongly oriented to and dependent on global rather than just local or regional sourcing demand. A number of both supply and demand factors contribute to this. As for supply, knowledge services clusters, such as Bangalore, are typically located in emerging economies whose industrial policies have been strongly oriented to serving global clients and attracting foreign investment. In recent years, governments in emerging economies have made increased efforts to develop technical universities based on Western models to produce high-skilled talent for both local and global demand; in addition, specialized knowledge service providers have established, e.g. in India, offering a variety of technical and analytical business services to global clients (Athreye, 2005; Ethiraj et al., 2005). At the same time, demand for lower-cost, but high-skilled technical talent and service expertise from abroad has increased in Western economies, partly driven by global