Does Distance Hinder Coordination? Identifying and Bridging Boundaries of Offshored Work

Federica Ceci [a], Andrea Prencipe [b],*

[a] Dipartimento di Economia Aziendale, Università G. d'Annunzio, Viale Pindaro, 42, Pescara, Italy
[b] Department of Business and Management, LUISS Guido Carli University, Rome (I) Viale Romania 32, 00197, Rome, Italy

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ABSTRACT

We submit that offshoring research focused mostly about an empirical phenomenon and extending our understanding about it, rather than expanding our understanding of the underlying theory as illuminated by empirical evidence. To theoretically frame the implications of offshoring strategy and practice for organizational design, this paper centers on the interplay between coordination and geographical distance. Distance strains the traditional approaches to coordination – i.e. decomposability and communication – as it impacts on knowledge boundaries created by the decomposition scheme. This increases the inherent complexity of the international division and coordination of innovative labor and knowledge and calls for new organizational practices.

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1. Introduction

Offshoring – the process of migration of productive tasks to low-cost countries – is considered as one of the stages of the evolution of firms' international sourcing strategy, which reflects a gradual evolution of sourcing from domestic purchasing to global sources (Monczka and Trend, 1991). Most studies underlined that, despite sectoral dissimilar trends, the evolution of sourcing strategies pertains to a multi-phased development process that firms implement using distinct business models at each stage to reduce costs, access to new geographical markets, tap specific talents and specialized capabilities of third-party providers (e.g. Ge et al., 2004). In short, offshoring has been reshaping the way the production process is organized.

Research on offshoring has primarily revolved around two theoretical perspectives: transaction cost economics (TCE) and the resource-based view of the firm (RBV). Whereas the TCE approach was mainly adopted in the first empirical accounts on offshoring, the RBV has been used more recently and increasingly so. This switch has been due to two related factors: (a) the increasing popularity of the RBV approach in the analysis of firms' boundaries and therefore make or buy decisions; and (b) the changing drivers of firms' offshoring strategies.

Offshoring has firstly emerged as a cost-based strategy, to become an opportunity to exploit talents available in most Eastern countries at a lower cost. TCE asserts that make-or-buy decisions are motivated by efficiency considerations (Coase, 1960; Williamson, 1985). When efficiency is the primary aim, the main determinants of offshoring are risk reduction, cost savings and access to low cost foreign labor (Khan and Fitzgerald, 2004). To gain access to new markets, firms established local production presence for reasons related to the nature of their business (e.g., service industries such as food retail or banking), local country tariffs and import restrictions (e.g., the auto industry) (Farrell, 2004), and to hit local "price-points" (produce at prices that enable sales in low-wage countries) (Kirkegaard, 2005; Mann, 2005). Also, knowledge of local specificities is the required entry ticket to some markets (Eppinger and Chitkara, 2006), and offshoring some activities may facilitate the

* Corresponding author. Tel.: +39 06 85225043.
   E-mail addresses: f.ceci@unich.it (F. Ceci), aprencipe@luiss.it (A. Prencipe).

acquisition of important local knowledge. Farrell (2004) recalled the many consumer electronics multinationals that initially were attracted by China's huge customer base and which now are taking advantage of its low costs to produce goods for export.

Using RBV to study offshoring has been recognized as a reply to the rapid diffusion of offshoring processes involving complex knowledge processes. Western firms extended offshoring practices to knowledge-intensive tasks (e.g. R&D, new product development, product design, tele-radiology, diagnosis, and clinical trials) delivered by skilled professionals (Kotabe and Swan, 1994) due to a variety of factors such as trade liberalization policies, advances in information technologies (Doh, 2005), and the continuous modularization of products and their underlying processes (Sako, 2003). Scholars described the adoption of offshoring by firms as a progressive learning-by-doing process whereby firms offshore increasingly advanced activities (Jensen and Pedersen, 2007; Lewin and Peeters, 2006; Maskell et al., 2007).

Lewin et al. (2008) found that US firms' offshoring of innovation activities was influenced by the interplay of managerial intentionality, firms' path dependency, and more importantly by growing shortage of home technical and scientific talent that limited their ability to staff innovation activities with domestic talents. Access to skilled talents around the world has been documented as a key strategic driver of offshoring as the number of offshoring projects involving qualified personnel has been increasing (Bunyaratavej et al., 2007; Farrell et al., 2006; Howells, 1999; Lewin and Couto, 2007; Manning et al., 2008).

Offshoring directs attention to the division and coordination of labor among organizations and across countries and therefore to the evolving relationships along the value chain, i.e. the patterns in which labor is divided and coordinated. Although literature on technological change (e.g. Patel and Pavitt, 1991) suggested that innovation activities should be kept in the home country, the recent trend towards offshoring of knowledge intensive tasks enlarges further the scope of division and coordination of labor to include innovative tasks (Apte et al., 2006; Ernst, 2005). Specific regions might be particularly advantageous locations for R&D facilities because of knowledge spillovers from networks of suppliers of tangible and intangible assets – e.g. training, knowledge, components – including research centers, universities, and other organizations (Feinberg and Gupta, 2004; Laursen et al., 2012a; Wesson, 1993).

Although recent contributions delved into some of the organizational challenges as entailed by offshoring of complex and innovative activities, we still know relatively little about the specific challenges it entails from an organizational design viewpoint. To theoretically frame the implications of offshoring strategy and practice for organizational design, this paper centers on the interplay between coordination (March and Simon, 1958) and distance (O'Leary and Cummings, 2007).

Offshoring poses coordination challenges due to the distance that puts into question the two basic approaches devised to achieve coordination: decomposability (Simon, 1969) and communication (Clark, 1996). Decomposability is used to create and simplify dependencies through the development of standard interfaces and rules to achieve coordination. Decomposability requires advanced knowledge of dependencies of activities to craft an architecture that defines interfaces, rules, and ranges within which components and tasks should function. A decomposed problem requires also that knowledge dependencies are defined and stable, as new knowledge bases and/or their uneven rates of change may create new dependencies and/or modify existing ones. Distance – understood as spatial, time, configuration, or demographic distance – strains decomposability as interfaces, rules, and ranges – and the knowledge encoded wherein – may be misinterpreted due to differences in functional or occupational knowledge, site and geographical practice and culture, and interests and goals.

Coordination may also be achieved using communication among actors or groups so that they reach reciprocal predictability of action (Srikanth and Puranam, 2011). Distance creates problems for communication due to logistical and time-related constraints that inhibit interaction among individuals engaged in pursuing a joint activity. In addition, distance strains also ongoing communication as distant individuals and groups may not share 'common ground' (Clark, 1996). Distance may well impede coordination as ongoing communication across distant locations may only occur via information and communication technologies (ICTs) that have indeed been proved to be relatively poor surrogates of personal interactions (Kiesler and Cummings, 2002).

The focus of this paper is on a decomposed problem that can be either a task or an activity that creates a coordination issue that can be solved either via plan – and therefore through the creation of stable, standard interfaces, rules and procedures; in short, an architecture – or via ongoing communication. In order to tease out the implications of distance on coordination, we rely on Carlile (2004). Decomposing a problem creates knowledge boundaries of different nature. Carlile (2004) identified different kinds of knowledge boundaries. Bridging such boundaries to achieve coordination requires different knowledge processes. *Syntactic boundaries* require knowledge transfer processes – via a common lexicon – as meanings of terms and concepts are unique, commonly held and well understood among actors. *Semantic boundaries* require knowledge translation processes, as meanings are not uniquely held, rather they vary across functional areas, occupations, and sites. Knowledge translation requires organizational solutions that lead to the creation of shared meanings, as knowledge is not uniquely understood among actors. *Pragmatic boundaries* require knowledge transformation processes – via such tools as boundary objects – as actors may have different interests and goals in relation to the specific task to be pursued (Carlile, 2004).

This paper aims to address the following research questions: Does distance impact on knowledge boundaries? If so, how? We posit that distance places a burden on each of the different types of boundaries challenging traditional organizational designs and calling for new coordinating solutions in terms of new practices (Leonardi and Bailey, 2008) or new coordination mechanisms such (Srikanth and Puranam, 2011).

The paper is organized as follows. The next section discusses decomposability and ongoing communication as the traditional approaches to coordination. Section 3 discusses the dimensions of distance as identified in the literature. Relying on Carlile (2004), Section 4 introduces the concept of knowledge boundaries to identify the implications of distance on coordinating offshored work. Section 5 presents a research agenda.