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Deus ex machina? Career progress and the contingent benefits of knowledge management systems

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ABSTRACT

Knowledge management (KM) systems are increasingly common in firms which promote self-managed careers and autonomy, such as professional service firms. Yet, whether or not KM systems provide real benefits is underexplored. Our focus is on the impact of KM use on the career progress of service professionals. We use recorded logs of employee KM system use and career progress data over a two-year period within a strategy consultancy to study the effect of KM use on career advancement speed. We present a contingency-based model to KM use effectiveness, showing that, although KM use generally boosts career progress speed, (a) benefits vary by seniority (more junior employees benefit more), (b) benefits vary by knowledge type (*encyclopedic* vs. *social*), with *social* knowledge use mattering more to career progress, and (c) those service professionals who tap a wider range of knowledge sources progress faster in their careers. We also find mediating effects, specifically that KM system use operates partly by accelerating the development of *task-related* skills. We draw the conclusion that KM systems contain neither a magical *Deus ex machine* for boosting employee performance and progress but nor do they warrant excessive skepticism, rather their impact on careers is contingent on employee needs.

Introduction

Knowledge management systems are pervasive and spending on knowledge management services is growing steadily (Musico, 2009). Evidently not a fad, corporate attention and spending have been paralleled by rising academic interest, which has produced numerous investigations, ranging from the ontology of organizational knowledge and its transfer (Alvesson & Karreman, 2001; Nonaka, 1994; Ringberg & Reihlen, 2008) to knowledge management system effectiveness within organizations (Argote & Ingram, 2000; Haas & Hansen, 2005; Olivera, 2000; Thompson & Walsham, 2004; Zhao & Anand, 2009). Studies of KM (knowledge management) system effectiveness are important because the risks of inflated expectations are high given the volume of knowledge-based work today and the allure of technology to help eager managers craft higher performing organizations. However, while studies of general knowledge transfer consequences/performance have appeared, studies of KM system benefits are underexplored (Mckinlay, 2004; van Wijk, Jansen, & Lyles, 2008). In particular, and the focus of our paper, there is a gaping hole in our understanding of the benefits of KM systems on individual careers (including work on the general interplay between knowledge exchange and careers, see Lam, 2007). This lack of understanding is especially conspicuous because of the converging of modern careers and KM systems. The conversion of labor-intensive jobs into ones involving some form of information analysis, codification, and exchange, often involves digital technologies. Also, successfully carrying-out this knowledge-based work means coping with the fact that relevant knowledge and expertise is often removed from the immediate workplace. This knowledge and expertise may require considerable time and effort to acquire, particularly where knowledge-based work is complex and demands heavy socialization, as in the case of service professionals (Ramanujam & Rousseau, 2006; Van Maanen & Barley, 1984). The complexity of service professional work—including the physical and temporal challenges—may make the problems of organizational (Ashforth & Saks, 1996; Van Mannen & Schein, 1979) and occupational (Pratt, Rockmann, & Kaufmann, 2006) socialization acute. This requires that knowledge-workers have tools that can cope with these career challenges.

KM systems should help career development and advancement. Although operationalized in many different forms, knowledge management systems are generally IT-supported processes which collect, categorize, and disseminate organizational knowledge for the purpose of decision quality, efficiency (reuse), and learning or development. They are tools that help connect workers to knowledge and other people regardless of physical distance, and that can be used whenever a knowledge worker chooses. Additionally, they constitute knowledge *governance* (Foss, Husted, & Michailova, 2010) in that firms attempt to use them as formal structures which influence human capital development and progression.

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Nonetheless, and despite the attention KM systems have received, we know little about the career implications for individuals who use (or not) knowledge management tools. This gap in understanding is both practical and theoretical. With the tremendous investments made in KM technology, there is first the practical question of whether users benefit from them. The research focus to date, however, is unbalanced, mostly concerned with firm-wide measures of performance, rather than understanding how knowledge management supports the careers and work of individuals. In general, empirical studies of knowledge management systems have focused on the impact of knowledge management on a number of macro measures of firm performance, for example firm growth rate (Bogner & Bansal, 2007) and patent impact (Miller, Fern, & Cardinal, 2007). There have also been a number of influential studies at the team-level (Haas & Hansen, 2005, 2007; Hansen, 1999), displaying important contingencies to when a KM system adds value and when it does not. Nonetheless, KM systems fundamentally involve individuals and deliver value through individuals; it is mostly the individual who contributes to and uses—or simply ignores—these systems on a daily basis, including for their professional development (Foss et al., 2010). This paper, then, focuses on KM system use by individuals (inflows) and seeks answers to the following research questions: *Does KM system use impact the performance and, in particular, career progression of the professionals using them? In their interaction with KM systems, what behaviors distinguish those who get promoted more often?* The link between KM system use and career progression has received no attention to our knowledge; assessing this link is important for the growing number of human capital intensive firms which depend on talent development and advancement and have invested heavily in KM systems, such as management consultancies (Anand, Gardner, & Morris, 2007).

Bridging studies of KM systems and careers can also contribute to theory development. KM systems offer access to two major knowledge types: documents (codified and explicit knowledge) and people (experts and their tacit knowledge). The mechanisms by which these can contribute to career progression, however, differ: the former follows a more classic approach to knowledge acquisition and competence development—via self-study and familiarity with codified concepts, rules, and procedures, that is "learning the rulebook"—while the latter emphasizes the acceleration of identity formation through access to and interaction with the right (prototypical) local experts and relevant subgroup—that is, "learning by interacting and socialization." But are these mechanisms equally beneficial to career progression and advancement? Also, do these mechanisms matter equally to the career progress of entry-level employees and senior staff? Our approach in answering these questions is to explore the contingent benefits of KM systems for career advancement along these two theoretical dimensions: *knowledge type* and *seniority*. Indeed, the empirical KM literature has failed to better distinguish knowledge types and explore contingencies (for an exception, see Haas & Hansen, 2005). Well established classifications of knowledge exist, for example the common distinction between explicit and tacit knowledge (Ambrosini & Bowman, 2001; Nonaka, 1994), or between positivist, social-constructionist, and socio-cognitive modes of knowledge transfer (Ringberg & Reihlen, 2008). However, the majority of empirical studies assessing the impact of knowledge management on performance either focus on one basic type of knowledge (tacit or explicit), or do not clearly differentiate between the two. Moreover, the question of their relative impact on career progress and advancement remains unanswered.

To address these issues, we analyze individual use of a knowledge management system, over a two year period, within a management consultancy. We examine the impact of knowledge management use on individual career progression, measured by relative job promotion speed. Our dataset is unique in that we do not rely upon perceptions of knowledge use but we track the actual use (download logs) of the KM system by consultants. We also have company data on the promotion records of consultants at various stages of their career. Both dependent and independent variables, then, are objective measures of KM system use and career advancement. Finally, we also test for mediation effects. Consultants are assessed after each engagement on items which reflect their skill development. We include mediation (structural) models which show to what extent promotion outcomes are driven by the direct effects of KM use vs. driven indirectly, by the impact of KM use on skill development.

Background: modern work and talent

In the late 1990's McKinsey & Co. introduced the metaphor of a "war for talent" (Chambers, Foulton, Handfield-Jones, Hankin, & Michaels Ill, 1998). Demographic trends indicated an aging workforce, with particular contraction in the 35–45 year-old range, a management "sweetspot," even while the economy would continue to grow (3–4%). The new metaphor captured the competition firms would face for an important talent pool of (mostly) knowledge-workers. This importance refers to both the scarcity of such talent but particularly some form of technical specialization, involving tasks that require rapidly absorbing diverse information, creatively synthesizing new knowledge, and coordinating the work of others in serving customers or clients. Employees capable of this transformative work must be found and retained (Defillippi, Arthur, & Lindsay, 2006), and, equally important, they must be equipped and developed. For the purpose of this paper, talent refers to these difficult-to-replace, high value-adding knowledge workers, such as partner-track professionals.

Talent management challenges are generally of three types: recruitment, development, and retention. Research to date has focussed on recruitment and retention, studying for example the portability of talent between firms (Groysberg & Lee, 2009). Our interest lies in the development of talent—training, socialization, and career advancement—because of the special nature and challenge of developing contemporary talent. This challenge has its source in the way organizations tend to be managed today along with the unique etymology of "talent" in business firms. In an attempt to increase efficiency and flexibility, organizations have become flatter and spans of control wider. Simultaneously, individuals have been urged to become more self-reliant (Arthur & Rousseau, 1996), expected to do more without being told what to do—an economy born out of the need for management efficiencies but based on the simple rule that more autonomous employees are also more motivated employees. This emphasis on self-reliance has also spilled-over into careers (Osterman, 1999)—high-potential employees are expected to show self-responsibility for their career and development, not just their job (Mabey, 2002).

There is irony in that "talent," while treasured, must also fend more for itself. But there is a big difference between self-reliant development and being "on your own." The difference is the systems and tools that organizations make available for talent to develop themselves. These tools include various training programmes and opportunities for advanced education, but they also include critical on-the-job resources, such as KM systems that blur the boundary between training instruments and in situ problem solving devices—for example, industry reports, client engagement histories, practice guidelines and principles, presentation materials, and peer biographies. Consequently, these tools are critical for knowledge-based work. The consequences of KM systems, however, may be broader than the performance of the immediate project. When companies provide such information, knowledge, and tools, they are also providing learning resources for career