The Mediating Role of Absorptive Capacity in Knowledge Transfer: ERP Implementations in Small and Medium Sized Enterprises in Sub-Saharan Africa

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ABSTRACT

Knowledge transfer between consultants and organizational users influences the outcomes of an Enterprise Resource System (ERP) implementation. Configuration and implementation tasks are dependent on generating some level of shared understanding of both business practices and technology. These problems become acute in implementations in small and medium sized enterprises (SMEs). SMEs often operate with non-standard business processes, making an effective interchange of process knowledge between consultants and end-users crucial. Using a multiple case study method and content analysis, the authors investigate the mediating role of absorptive capacity in knowledge transfer in SMEs ERP implementations. They present exploratory case studies from 3 Nigerian companies with varying outcomes, and hypothesize that knowledge transfer is complicated by acute information asymmetry, absence of pre-existing related knowledge and consequent difficulties in developing a shared understanding, and by a tendency to operate with lone consultants and lone organizational representatives.

Keywords: Absorptive Capacity, Enterprise Resource System (ERP), Information Asymmetry, Knowledge Transfer, Small and Medium Sized Enterprises (SMEs), Sub-Saharan Africa

INTRODUCTION

As the market for large multi-national companies becomes satiated, traditional ERP giants are focusing on the Small-to-Medium-Enterprises (SMEs) in an attempt to gain market share. However they often operate with models developed for large organizations - one-solution-fits-all systems embodying common business processes and best practices along industry verticals. SMEs are distinct, varied, and gain much of their competitive advantage by tailoring their processes to their customers’ needs. This means they have unique requirements that cannot easily be standardized. Studies have shown that SMEs prefer systems that best fits
their current business processes when selecting an information system (Everdingen et al., 2000) - though they often lack the capability to properly articulate these requirements (Davis, 1989). They typically expect full functionality out-of-the box, without the complexities of tailoring their own business processes and without steep learning curves. There is a potential for any vendor that succeeds in satisfying these elusive expectations. In the absence of such flexibility, or the emerging dominance of a single provider most vendors have resorted to acquisitions and solution-centric ecosystems of partner networks to deliver last-mile solutions (Forrester, 2007; Antero & Riis, 2011).

One critical challenge in Enterprise Resource Planning (ERP) systems implementation has been to identify the gaps between an ERP system’s generic functionalities and the specific organizational requirements of adopting organizations (Soh et al., 2000). ERP consultants play a significant role in ERP implementations (Markus & Tanis, 2000) and will typically outnumber IS specialists on ERP mixed project teams (Bancroft et al., 1998). Their ability to effectively map the underlying functionalities contained within the ERP software to the business processes of the adopting organization and effectively transfer this knowledge in such a way that users can seamlessly and unobtrusively assimilate the system into their daily routine is crucial to achieving a successful ERP implementation outcome. It can therefore be argued that a first step to achieving this will depend on the consultants’ absorptive capacity (Cohen & Levinthal, 1990) - their ability to fully comprehend the business practices of the adopting organization.

However, whilst the consultant primarily possess technical knowledge, the client is the main source of detailed knowledge of organizational practice and business process (Rus & Lindvall, 2002). This knowledge asymmetry can be problematic as it creates a barrier that can inhibit both implementation and adoption (Attewell, 1992). This barrier is exacerbated in SMEs, which both display idiosyncratic organizational and management models (Ordanini, 2006; Cartman & Salazar, 2011), and lack resources for training, implementation and organizational development. They also lack specialized IT personnel, capable of understanding the underlying technology and modifying it to suit individualized requirements, and user IT competences can also be weak. In these situations the consultant’s ability to identify, exploit, and apply new knowledge originating from the adopting organization, and adapt to distinct organizational practices in their clients becomes even more important. Equally important is the client’s ability to assimilate knowledge of the technical content of the ERP together with its implied business processes, and adapt their own business process in the light of this learning.

The SMEs sector of the ERP systems market in Africa exhibits a tendency that further compounds the problem of knowledge asymmetry - a shortage of ERP consulting expertise. Consulting firms often contract lone, freelance ERP consultants to implement systems in the SME segment. Though they may have a good technical understanding of the platforms they implement, they seldom have wide experience in the industry sectors of some clients. Instead they crisscross industry verticals in a manner that is uncommon in the West; ERP consultants in the West are typically vertical specific – they specialize in a particular industry sector. This means that over time, they accumulate valuable knowledge about the essential processes and business practices within a vertical, and can draw on this knowledge when challenges arise.

The potential impact of this strategy can have wide theoretical and practical implications since SMEs technology adoption patterns exhibit large variance when compared to larger firms. Using standardized frameworks and lenses developed for large organizations can be inappropriate and may even be counterproductive (Ordanini, 2006).

This study is primarily concerned with the mediating role of absorptive capacity in knowledge transfer between organizational representatives and ERP consultants with regards to their ability to dynamically acquire, assimilate, transform, and exploit new knowledge in such
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