Structuring Information Systems-in-Use: Studying the Replication of an E-Procurement System through a Practice Lens

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ABSTRACT

It has become commonplace for companies operating in a global marketplace to relocate, extend, or establish new production facilities overseas. In this global context it is also normal for organizations to replicate the implementation and use of an established information system in a new location. Such replication is not trivial however and if not properly managed can lead to IS obsolescence. Drawing on a practice lens approach the paper presents a case study of the attempted replication of an e-procurement system within a global notebook manufacturer. The study argues that effective replication needs to take into account not only the technical aspects of the system but also the interpretive schemes of its users and their awareness of organizational routines that take together amount to a technology-in-use. The paper concludes with a discussion of the issues arising from the study and their implications for global information systems management.

Keywords: E-Procurement, IS Obsolescence, IS Replication, Practice Lens, Technology-in-Use

INTRODUCTION

In a global marketplace, it has become commonplace for companies to relocate, extend, or establish new production facilities overseas. In doing so resources can be acquired more cheaply, operations can be run more cost-effectively or nearby markets can be served more efficiently. When planning to integrate their overseas production facilities with their global supply chain, companies would certainly prefer to make use of information systems (IS) that have already been established and accepted in the companies (Chow, 2004; Niederman, Al-horr, Park, & Tolmie, 2012). Evidence suggests however that the replication of an IS from one location to another is often not as straightforward as one might expect. The system interface may have to be changed for example, in order for it to be usable and accepted by local users (Burton-Jones & Gallivan, 2007; de Guinea &
business practices supported by the system may have to be redesigned in order to accommodate local culture and work practices which in turn may affect system use (Hsiao, 2007); while specific rules and procedures built into the system may have to be modified, so that the system abides by local governmental directives (Zhu & Kraemer, 2005; Zhu, Dong, Xu, & Kraemer, 2006). Without addressing any required changes companies risk generating a quite different output from and ultimately non-acceptance of an information system in its new location.

How organizations solve and manage the problems arising from the replication of an IS has therefore become a pressing issue from the perspectives of both global information systems management and IS adoption (Straub & Loch, 2006; Markus, Sia, & Soh, 2012). Current literature has examined this issue from both contextual and user perspectives (Avgerou, 2001; de Guinea & Markus, 2009; Hsiao, 2007; Venkatesh, Morris, Davis, & Davis, 2003). While a contextual perspective stresses the importance of local context, arguing that the system in question should align with local organizational and national contexts; a user context highlights the role of user influence arguing that it is the users’ acceptance of the system that is key to system adoption. In sum both perspectives attempt to identify the potential reasons, either contextual or user-driven, for any challenges arising from the replication of the IS. Both perspectives also assume however that once an information system is embedded and accepted it will be used until it reaches the end of its natural life cycle. However some further studies have advocated that technology-organization fit is not a permanent but a provisional state (Furneaux & Wade, 2011; Majchrzak, Rice, Malhotra, King, & Ba, 2000; Strong & Volkoff, 2010). It being argued that a decision to adopt any information system is situated within a specific business environment and reflects organizational as well as user expectations of the system at a particular point in time. A dynamic business environment will for example change the requirements for the information system (Furneaux & Wade, 2011; Karahanna, Straub, & Chervany, 1999; Kim & Malhotra, 2005; Zammuto, Griffith, Majchrzak, Dougherty, & Faraj, 2007). In this sense, when a company takes a decision to move their production facilities overseas, the company’s requirements for the information system may have already changed due to other reasons related to a changing business environment; and this is one reason why an information system that initially supported a business’s working practices may no longer replicate the same results, and even become obsolete. As such a gap exists in our knowledge and understanding of the problems arising from the internal re-location and adoption of existing information systems.

Informed by a practice lens approach to IS use this study intends to contribute to a bridging of this gap by arguing that the management of internal IS replication is not a trivial exercise. After all a system that is designed and proven useful in a specific context, and at a particular point in time may not have the same success in a different context and at a different time (Schultze & Orlikowski, 2004; Orlikowski, 2000). At its worst an IS can become obsolete. In order to advance our understanding of the issues pertinent to an internal IS replication; a case study approach was used to investigate the internal replication of an e-procurement system within an Asian manufacturing company.

The paper is organized as follows. The next section outlines the theoretical background to the study and introduces the concept of a practice lens. This is followed by a description of the research setting along with the research design, data collection and data analysis methods used. The next section presents the study’s findings. The paper concludes with a discussion of the issues arising from the study and their implications for global information systems management.
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