Technology Adoption in Post-Conflict Regions: EDI Adoption in Kosovo After the War

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ABSTRACT

Post-conflict developing regions are special cases of developing countries which have received little attention in information systems research. They are emergency situations which attract significant aid designed to help create economic stability through, for example, the use of IT. This study compared the experiences of Electronic Data Interchange (EDI) adoption in the extreme environment of a post-conflict region to other developing regions. Presenting data gathered from 68 companies in Kosovo, this paper provides an in-depth examination of EDI technology adoption in a post-conflict region. The findings suggest that EDI adoption in Kosovo comprises different features when compared with other developing countries, indicating that current theories of technology adoption have not fully accounted for EDI adoption in post-conflict regions. From this finding, implications for interventions in post-conflict regions are drawn. This paper contributes to the understanding of technology adoption processes and offers new insight into the process of technology adoption in this context. This paper provides a starting point for further work which creates a basis for more effective interventions in post-conflict zones, contributing to economic development and stabilisation.

Keywords: Conflict, Developing Countries, e-Business, Electronic Data Interchange, Neo-Institutionalism, Supply Chain Management, Technology Adoption Theory

INTRODUCTION

Post-conflict regions refer to developing countries which are recovering from a major conflict, be it a civil war, or another security crisis. These territories attract significant inward funding designed to provide security and develop infrastructure which is often extremely damaged. Donor agencies set-up IT incubation centres and other interventions in order to provide support to businesses trying to set up in the wake of the conflict. Political and physical infrastructures are severely damaged by conflicts and take considerable time and energy to become re-established. The government (usually provisional) typically seeks external international support to identify and implement workable policies to stimulate economic growth through, for example, supply chain improvements and other IT-related initiatives. The specific contexts which prevail in post-conflict countries are not typified by other developing countries, nor are they typified by developed countries. To date, post-conflict regions have

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not received much attention from information management research. Rich data is needed in order to understand post-conflict contexts and so inform technology adoption initiatives targeted at indigenous enterprise.

It has long been recognised that economic development is accompanied by the creation of effective, IT-enabled, inter-organisational networks which provide the basis for lower cost, faster and more productive supply chain capabilities and access to IT-mediated marketplaces (La Londe & Masters, 1994; Bowersox & Calantone, 1998; Stank et al., 1999). Electronic data interchange refers to a particular set of information technologies which enable computer-based documents to be exchanged between computer systems which reside in different organisations. Using such technologies, companies can, for example, transfer funds automatically to their banks, submit purchase orders to their suppliers or receive sales orders from their existing customers in real-time. This can significantly improve the effectiveness of business partner relationships by, for example, reducing errors, speeding up transactions and providing increased flexibility. EDI-based systems are a basic infrastructure for inter-business activity and EDI is a major enabling technology for these processes. EDI is therefore an important infrastructure for engaging with the IT-enabled global market place. It provides a platform for growing a much needed export market in post-conflict regions where the rapid ramping up of economic activity is a high priority as part of the overall goal of stabilisation (Stapleton, 2009, 2010).

**POST CONFLICT REGIONS AS A SPECIAL CASE OF A DEVELOPING COUNTRY**

Are post-conflict countries different to other developing countries?

Several literatures recognise post-conflict developing regions as a particular subgroup of developing countries. Disaster Management (Mubareka et al., 2005), Social Studies (Sorenson, 1998), Peace studies (Anderlini & El-Bushra, 2007; Bryden & Hänggi, 2005; Spangler & Burgess, 2003) and Economics (Demekas et al., 2002; Sklias & Roukanas, 2007) all set post-conflict regions apart from other developing countries as having particular needs and features. These include damaged physical, political and educational infrastructure (and therefore low economic capacity), difficulties in attracting inward investment and distinctive needs in the structure and distribution of aid. The scale of the presence of international agencies in post-conflict zones is another feature of these regions. In a study of post-conflict Sudan Gong (2004) explained how international agencies bring with them reservoirs of management knowledge and technology-enabled processes which could, if diffused into the indigenous community, provide a basis for developing local business processes. Whilst some factors associated with post-conflict zones are evident in other developing countries, the combination and intensity of the factors make post-conflict zones special cases.

The United Nations also recognises post-conflict regions as special cases of developing countries (UN, 2009). The UN has directly intervened in a number of post-conflict situations, for example in the UN Transitional Authority in Cambodia (UNTAC) in the 1970s and more recently in the United Nations Mission in Kosovo (UNMIK) in the 2000s.

**INFORMATION TECHNOLOGY ADOPTION THEORIES**

EDI adoption is a particular case of technology adoption. Why do organisations adopt new technologies? This section sets out current theories of technology adoption.

There are two primary schools of thought about determinants of technology adoption: one focuses on the characteristics of the technology itself, the other, on the characteristics of the adopting body, that is, the institutional context in which potential adopters operate. We shall take each of these in turn setting out some important
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