

# Chapter 10

## The Effect of Merger and Acquisitions on the IS Function: An Overview and a Potential Agent-Based Approach

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### ABSTRACT

*Merger and acquisition (M&A) activity has many strategic and operational objectives. One operational objective is to develop common and efficient information systems that can be the source of creating significant cost savings for the joined companies. In combining the IS divisions of the acquiring firm with that of the acquired firm there are many hurdles when the technical and social system are to be integrated. Exactly how this process will evolve and exactly what results can be achieved is hard to determine. This chapter identifies some of the major factors associated with the integration process and proposes Agent Based Simulation as a possible methodology to study this phenomenon.*

### INTRODUCTION

Merger and acquisition (M&A) activity has increased in the last decade and a half (Gupta et al. 2002). It promises increased efficiency, increased market share, operating synergy, diversification,

strategic realignment, and acquisition of new products, technologies, patents, and talents (Gupta et al. 2002; Stylianou and Jeffries 1996). Bringing together different organizations does present its own special challenges. Cartwright and Cooper (1993) contend that two-thirds of these M&A fail to meet their goals.

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One area in which cost savings and great efficiency gains can be achieved is Information Systems (IS). The impact of an M&A process on IS is considerable. In most cases the IS division from the acquired company is absorbed into the IS division of the acquiring company (Wijnhoven et al. 2006). In this process the surviving IS division may include new staff, hardware, software, and procedures. It is during the post-merger process that value is created (Jemison and Haspeslagh 1991) and synergies achieved (Birkinshaw et al. 2000).

While IS synergy is often expressed as one of the justifications of an M&A, studies have shown that IS professionals are often excluded from the M&A planning process (Stylianou and Jeffries 1996; Johnson 1989). In some cases, IS professionals are not even aware of the merger activities until the official announcement is made (Stylianou and Jeffries 1996). Corresponding to this apparent lack of involvement of IS professionals in the planning stages, there has been very little conceptual or empirical work in the area of IS integration resulting from M&A activities (Robbins and Stylianou 1999).

The purpose of this chapter is to identify and study the factors that affect the successful integration of IS divisions during M&As using and Agent-based Modeling approach. Additionally, this study also proposes agent based simulation as a way for M&A decision makers to better understand the impact of these factors on IS divisions after an M&A. Agent-based Modeling (ABM) has been successfully employed to study various complex socio-technical systems (Axelrod 1997).

The rest of the chapter is organized as follows. In the next section we review extant literature on the factors that influence the success or failure of M&As. Thereafter, we discuss the relationship between the factors identified in the literature review, the merged IS division and the merged organization. We illustrate potential applications of modeling for IS division integration in an M&A scenario and identify the relevant variables. We

conclude the chapter by pointing out the usefulness of the study and the proposed Agent-based simulation approach and suggesting directions for future research.

## **Theoretical Background**

The factors that influence the success or failure of M&A have been studied in a number of fields such as Finance (Champagne and Kryzanowski 2008), Strategic Management (Homburg and Bucerius 2006), Organizational Behavior (Larsson and Finkelstein 1999), and Accounting (Black et al. 2007) just to name a few. However, little is known about the factors that influence the successful integration of IS in M&As. Extant studies have suggested that successful integration of the acquiring and acquired IS divisions may be dependent upon IS (Evgeniou 2002), organizational (Mehta and Hirschheim 2007) and human (Legare 1998) factors.

## **IS Factors**

The difficulty in merging IS in organizations is related to the compatibility of the IS architectures and the skills possessed by IS employees in the acquired and acquiring companies (Harvey and Lusch 1998). Studies have found that a large number of firms have encountered significant IS incompatibility problems after mergers (Evgeniou 2002). Integration of non-compatible systems may be extremely difficult and time-consuming, which may in turn result in the ultimate failure of the IS integration endeavor (Stylianou and Jeffries 1996; Robbins and Stylianou 1999; McKiernan and Merali 1995). Extant literature has demonstrated that having incongruent IS platforms and infrastructure presents serious challenges that can potentially jeopardize organizational objectives (McKiernan and Merali 1995). Large variations in IT platforms and infrastructure between merging organizations can make an M&A more difficult or more costly or both. Although

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