Chapter 8.9
Enterprise System in the German Manufacturing Mittelstand

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ABSTRACT

Although the research on integrated enterprise systems (ES) is proliferating, the knowledge base about ES implementations, usage and experiences outside the United States is still small. This is also true for Germany, despite the crucial importance of ES in the country, and the potential uniqueness of its ES environment. Most ES research to date has also been focusing on larger corporations, neglecting the challenges and issues that small and medium sized enterprises (SMEs) have been experiencing. Collectively often referred to as the Mittelstand, German SMEs form the backbone of the German economy. This chapter brings attention to these areas by describing observations obtained from eight SMEs in the German manufacturing sector. These findings about ES implementation, usage, and experiences are reported and summarized along nine points of interest.

INTRODUCTION

Enterprise systems (ES) promise seamless integration of processes and information flows throughout an organization, streamlining operations and increasing their efficiency. These systems, often also referred to as Enterprise Resource Planning

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(ERP) systems, enable companies to compete in the global marketplace and expand their reach. Having evolved via materials requirements planning (MRP) and manufacturing resource planning (MRP II) systems, they are nowadays often an integral part of and a competitive necessity for companies worldwide.

Most ES research to date has focused on large organizations operating in North America, neglecting company experiences with ES in other parts of the world. Some exceptions exist, for example studies conducted in Ireland (Adam and O'Doherty, 2000), Singapore (Soh, Kien and Tay-Yap, 2000), China (Davison, 2002), and some European countries (van Everdingen, van Hillegersberg and Waarts, 2000). It is our objective with this chapter to expand the body of knowledge about ES implementation, usage and experiences in Europe, specifically in Germany. Crucial components preceding the implementation and usage phases are the decision and planning phases, for which we also provide insight. We focus on small and medium sized enterprises (SMEs) who have been following their larger counterparts in ES implementation and usage. Their often constrained environment (cf. Quiescenti et al., 2006) makes them a particularly interesting subject of investigation. SMEs are usually slower in adopting new concepts, and while an ES may be present, they often still operate in functional silos (Billet, 2008). However, the ES market for SMEs is booming (Bell and Orzen, 2007), which is also illustrated by more targeted and tailored offerings from ES providers, such as SAP's Business One solution.

This chapter reports additional findings from a larger study carried out by the international author team. Related results were already reported in Schoenherr, Venkataramanan, Soni, Mabert and Hilpert (2005), whose focus was a comparison of experiences by German and U.S. companies. The present chapter provides some very interesting insights of issues not already reported. More specifically, we explore the impetus for the system, the power of the final decision, the system and system provider selection, the time spent in system selection, planning and implementation, the order of implementation, the issue of standard packages, modifications and in-house developed applications, the involvement of employees and training, the implementation success and satisfaction, and the topic of upgrades after implementation. The remainder of this chapter is structured into four sections. The next section provides an overview of related literature, followed by a section describing our methodology and sample characteristics. The subsequent section reports the results, with the final section providing a brief summary and conclusion.

LITERATURE REVIEW

Experiences with integrated ES (ERP systems) were first published in practitioner journals (Mecham, 1998) and the popular press (Kirkpatrick, 1998; Diederich, 1998). Shortly afterwards first academic research reports appeared (Davenport, 1998), fuelling interest and excitement among academics. Up to date a multitude of articles have appeared dealing with both the positive (Bradford, Mayfield, and Toney, 2001) and negative (Sumner, 2000) effects of ES implementations, as well as their associated considerable cost (Mabert, Soni, and Venkataramanan, 2000). Mabert (2007) and Jacobs and Weston (2007) provide a comprehensive chronology of the historical development and evolution of these systems.

Most of the early research in ES dealt with the experiences made by large corporations, which also represented the early adopters of this new integrated technology. Small and medium enterprises (SMEs) however followed quickly. Soon it was also realized that SMEs differ significantly from their larger counterparts, for example in terms of motivation factors, types of systems implemented, implementation strategies, implementation costs, and the degree of customization (Mabert, Soni and Venkataramanan, 2003). Differences between