

## Chapter 4.24

# Enterprise Resource Planning (ERP) Embedding: Building of Software/ Enterprise Integration<sup>1</sup>

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### ABSTRACT

This chapter analyses the mutual processes according to which the tool (ERP) and the organisation adapt to each other. It documents the live experience of technological change during the introduction of ERP in a medium-sized enterprise. Focusing on the election of the new tool and its appropriation by firm members, it does not simply reduce the process to a handful of factors (of success or failure), but analyses the different negotiations between actors leading to the reconstruction of both the tool and the organisation. It thus takes an in-depth look at the role of technology rather than just resorting to a simplistic and deterministic search for causal connections. Tracing the construction and meshing

of the performance of both organisation and tools within the company, it reviews a set of dichotomies between technology and society, initial project and “impact,” but also action and submission to constraints. Hence, the chapter explores the learning processes and the redefinition of actors, organisation and tools.

### INTRODUCTION

The introduction of information systems (IS) is generally regarded from three major points of view. In computer sciences, researchers look at solutions and specifications that make it possible to meet social needs or develop new opportunities for social dynamics. In order to succeed in this, they require information and models pertaining to the organisa-

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tion and the users. They then integrate these in their concept or design procedures. The role of the social sciences is to supply computer scientists with the elements they lack. Social scientists are thus experts, acting on behalf of society and human beings. However, many social scientists are reluctant to be reduced to simple instruments, claiming that they have their own scientific goals with respect to information systems (IS). These goals are either to study the impact of information technologies (IT) and what social actors do with them or to explore the interesting social processes emanating from the new situations created by these tools. A third point of view is that of managerial researchers who are interested in methods and models for introducing and managing IS. They compare experience and build prescriptive models for implementation. Between these three approaches, there is an emerging consensus that argues for better integration and embedding of IT according to the social and organisational context. Computer scientists want to integrate social variables in technical models; social scientists complain about engineers' and computer scientists' lack of ability to understand what is going on in society with IT and promote the idea of taking its social aspects better into account; management scientists suggest participatory design procedures and a methodology for the consultation and progressive integration of users.

The introduction of Enterprise Resource Planning (ERP) in enterprises is a phenomenon that has existed for over ten years now. Most big companies have their own ERP while the dissemination of this kind of IS is being extended to SMEs and non-industrial organisations (public authorities and universities among others). Alongside the dissemination process, the ERP tools themselves evolve as they adapt to new contexts. The original ERP tools were designed for big organisations and were not therefore suitable for SMEs. Thus, what can be observed is a continuous process of innovation and transformation of the tools alongside the simultaneous transformation of SMEs and other

organisations. These two processes can be studied as a global phenomenon by looking at the main trends in terms of the technological, organisational and social aspects.

This chapter explores the integration process from the point of view of one SME. Looking at the process in a more detailed way makes it possible to describe and analyse the mutual processes of adaptation between one new tool (ERP) and one specific organisation. The chapter documents the live experience of technological change as the ERP tool is introduced in a medium-sized enterprise. It focuses on the election of the new tool and its appropriation by firm members. It does not simply reduce the process to a handful of factors (of success or failure), but analyses the negotiations between actors that lead to the reconstruction of both the tool and the organisation. It goes through a set of dichotomies between technology and society, initial project and "impact", but also action and submission to constraints.

The chapter underlines the benefits of such an approach in terms of understanding what is going on. Using the Actor-Network Theory (ANT) and its concept of translation, it focuses on the specific translation process between an ERP tool and an SME. Studying the mediating webbing in the very fabric of the firm and the way in which this ties in with the performance of both its organisation and the tool, the chapter provides some original empirical results. These point to a different analysis from that of the usual approach adopted by both engineers (thinking in terms of optimising functionality) and social scientists (thinking in terms of use and impact). It highlights the potential of ANT when it comes to addressing the challenges of IS research.

## **BACKGROUND**

The dissemination of ERP in industrial organisations is a major contemporaneous industrial phenomenon. It affects the organisation and the

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