

Chapter 3.1

A Modern Socio–Technical View on ERP–Systems

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ABSTRACT

This chapter sketches an Organization Design perspective called “Modern Socio-technical Design”, and subsequently discusses the implementation of Enterprise Resource Planning Systems from this perspective. The authors argue that the praxis of ERP-system implementation is often at odds with socio-technical insights, leading to various problems that ERP-end users are confronted with. These tensions may not be inevitable, but simply result from taken-for-granted organization assumptions underlying ERP-implementation praxis. The socio-technical insights are intended to help practitioners reflect on ERP-implementation praxis, and discuss to what extent an ERP-system is appropriate and if so, where socio-technically inspired choices may be made within configuration processes.

DOI: 10.4018/978-1-60566-264-0.ch029

If you automate a mess, all you get is an automated mess

—Anonymous Saying

INTRODUCTION

Do ERP and teamwork coincide? Koch and Buhl (2001) studied 24 cases where teamworking and ERP-systems were introduced simultaneously. Their answer to the question is negative, as they argue:

[s]ince the concepts of teamwork and ERP-systems appear widely diffused, one might expect that both are closely aligned when they are implemented [...] As we demonstrate, however, this is not the case [...] Although ERP is possible to configure in such a way that autonomous teamwork on the

shop floor is supported, we found that ERP and teamwork rarely interact directly. When they do, they are potentially competing change programs, and indirect competition predominates. (Koch & Buhl, 2001, p. 165)

They argued that the problem was not the configuration of ERP-systems for autonomous teamwork, but that there were (1) no modules available for this configuration process and (2) no consultants with the necessary knowledge. To illustrate this, they discuss the case of a machine building company where an attempt was made to align ERP-systems and teamwork. The attempt was unsuccessful however, as it started from different premises: the consultants implementing the ERP-system focused on enhancing production planning and control from a central perspective and “did not push for supporting teamwork” (2001, p. 173). Furthermore, “in-built features” of the ERP-package used “were realized in a way that led to a strengthening of other parts of the planning than the teams” (2001, p. 173). Finally, the technical aspects of implementing the system were so complex and time-consuming that organizational aspects received little attention. The members of the self-managing teams in the project team could not turn this tide. Whilst the teams were authorized to take certain decisions, the key tasks of (local) production planning was centralized. In a second round of ERP implementation, the shop-floor teams’ experiences were not taken into account and the new tasks were confined to data entry and providing feedback on production orders. Koch and Buhl stress that the outcome was not a necessity but “a mixture of intended and not intended actions both from the ERP-coalition” and members of the self-managing teams (2001, p. 174).

Their findings do not stand alone. At a more general level, Soh and Sia (2004) studied how ERP-systems were used in three hospitals in East

Asia. They wondered whether empowerment or control would prevail in how these systems were used. The result of their study was that while both outcomes are possible, in praxis control tended to get the overhand. In terms of Orlikowski (2000), the ‘control’ potential of ERP-systems is apparently and in the course of time more easily enacted than the ‘empowerment’ potential (cf. Boudreau & Robey, 2005).

Koch and Buhl’s study gives rise to the question why it is apparently so difficult to combine self-managing teams and ERP-systems. Answering this question calls for a more integrative view on organization design because teams are embedded in organization structures and information systems such as ERP-systems are to support decision-making in such organizations. This view remains implicit in Koch and Buhl’s study, but is necessary if their recommendation of developing “practical templates” to support configuring ERP-systems for self-managing teams is to be realized. In a broader perspective, self-managing teams are seen as a hallmark of modern organization, for instance as part of “high performing work systems”.

In the remainder of this chapter we first present an organizational design methodology that provides an integrated view on structuring organizations so that suitable organizational environments are created for self-managing teams and subsequently, after this structure has been designed, the informational requirements are analyzed so that information systems may be configured and implemented. This so-called “Modern Socio-technology” incorporates some organizational design principles which, as Koch and Buhl’s (2001) work shows, tend to sit uncomfortably with ERP-systems in practice. These tensions are discussed after presenting Modern Socio-technology. This analysis is necessary as a first step for developing the templates for which Koch and Buhl signaled the need.

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