Chapter 3.20
Enterprise Information Systems:
Aligning and Integrating Strategy, Technology, Organization and People

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ABSTRACT

The implementation of Enterprise Information Systems is a difficult task, even for large companies. It can be even more so for Small and Medium Size Enterprises (SMEs), for most are seriously constrained in terms of time, money and skills. The key to successful implementation lies in achieving an alignment between strategy, technology, organization and people, and also in achieving commitment to the new technologies. An implementation method called HiSTOP, which stands for High Integration of Strategy, Technology, Organization and People, is described. This method provides a means of adjusting all four elements so that each is appropriate and also so that all four elements fit together. Although the method was initially designed with SMEs in mind, the method is also suitable for larger companies, hence the chapter considers both types of enterprises. The method places emphasis on development of internal implementation competencies. The key foundational principles of the method are discussed along with some key findings from early trials.

INTRODUCTION

One of the expected benefits of Enterprise Information Systems is increased responsiveness, flexibility and agility. Yet sometimes these benefits can also be delivered through non-technical means, namely by an appropriate organizational design, based on the right choice of organizational design parameters: differentiation, integration, decision structure, and

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formalization. And people are also crucial as well, for they need the right skills and motivation to deliver the sought after benefits. But the story does not end with these elements, for strategy must also be considered, because different business strategies require, in general, different forms of responsiveness, flexibility and agility. Therefore the key issues are aligning and integrating these four elements, and dealing with the interactions between them, so that, for example, the needs of the organizational design are reflected in the technology design, and vice versa.

Achieving this alignment and integration is a very difficult thing to bring about, even for big companies with large budgets, capable of buying-in external skills and expertise to support the whole process of selection, design, and implementation. For Small and Medium Size Enterprises (SMEs) the challenges are even more daunting, for most are seriously constrained in terms of time, money and skills. Moreover, SMEs can also be micro versions of large enterprises in that they also bring with them a set of internal organizational politics, conflicts, outdated practices, change resistance, etc., that is to say, the features and problems that are so often found in large enterprises.

SMEs therefore provide a challenging environment with respect to the implementation of Enterprise Information Systems in terms of aligning and integrating Strategy, Technology, Organization and People. What therefore can be done to help such businesses? Answering this question is the focus of this chapter.

However, before addressing the above it is necessary to define the theories and concepts upon which the chapter will be built. After providing a brief overview of the main challenges, a *social shaping of technology* approach is presented. This method is rooted in sociotechnical theory. The method, called HITOP (High Integration of Technology, Organization and People) was developed in the United States in the late 1980s, in the context of implementation of advanced manufacturing technologies within traditional hierarchical mass production environments operated by large corporations. The HITOP method provides a means of considering the organization and people requirements of computer-based manufacturing technologies. This method is briefly reviewed, highlighting its underlying philosophy and assumptions, along with its strengths, weaknesses and limitations.

Following this, a new method is discussed, which is an improved, generalized and extended version of the HITOP method, and which is based on a broader set of needs and issues, including those of SMEs, and also addressing the requirements to align and integrate Strategy, Technology, Organization and People. The improved version of HITOP is however also relevant to large enterprises.

Armed with this new version of HITOP, which is called HiSTOP (High Integration of Strategy, Technology, Organization and People), the chapter will then consider the key components, which constitute several steps that SMEs and large enterprises can take to improve the implementation of Enterprise Information Systems. These considerations will involve addressing the process by which the design and implementation work is undertaken, as well as the analysis of the interrelationships between Strategy, Technology, Organization, and People. Using HiSTOP, it becomes possible to begin to consider design choices in terms of all four dimensions of the problem.

The conclusions provide insights into critical success factors with respect to acceptance of the method. These factors were identified at an early stage in the development work and were therefore used to shape the method to ensure that it would not be seen as being overcomplicated or too difficult to use. Insights from experiences of using the method are also provided. In particular the finding that different modes of use are possible, since it is not necessary to follow the whole method, and different parts can be used as required according to the inclinations of a particular business and its specific interests and constraints.

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