



Chapter VII

Business Interactions in a Virtual Organisation: Visualising Inter-Organisational Systems Complexity

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ABSTRACT

This chapter focuses upon the complexity of inter-organisational systems (IOS)—on one hand enabling organisations to become successful actors conducting electronic commerce, and on the other hand being organisationally very complex and demanding to develop, implement, and use, since several organisations with differing objectives are involved. The chapter proposes a model to analyse business interaction, the business action theory (BAT) phase model. The aim of the chapter is to show how BAT can increase the understanding of business interaction conducted in complex inter-organisational contexts, such as business networks and virtual organisations. In order to achieve this purpose the BAT phase model is applied on a virtual organisation. The model visualises and gives structure to the business interaction within this network of organisations. Understanding of such business interaction is important when developing and implementing IOS, since (part of) the business interaction will be conducted through the IOS.

INTRODUCTION

Inter-organisational systems (IOS) are information and communication technology-based systems that transcend legal organisational boundaries (e.g., Konsynski,

1992; Kumar & van Dissel, 1996). This kind of system is no new phenomenon; the concept has been discussed since the 1960s and had a peak of interest in the 1980s (Cavaye & Cragg, 1995, p. 14). The last years' increased focus on business networks, co-operation across organisational boundaries, and virtual organisations has, though, put an even greater emphasise on IOS issues. In many of today's organisations co-operation and relationships with other organisations are vital, and Information Technology (IT) is an important enabler to such inter-organisational activities (Timmers, 1999; Senn, 2000). IT-supported business activities on an inter-organisational level are often characterised as electronic commerce. There are many definitions of electronic commerce: for example Timmers' (1999, p. 4) general definition, "*doing business electronically*" or Turban et al. (2000, p. 4), who define electronic commerce as "*an emerging concept that describes the process of buying and selling or exchanging of products, services, and information via computer networks including the Internet.*" These definitions of electronic commerce do not exclude intra-organisational IT-supported activities. This chapter will, however, put its emphasis on inter-organisational issues, even though there is always a mutual dependency between intra- and inter-organisational activities.

New organisational forms, such as business networks and virtual organisations, imply that the complexity in inter-organisational relationships has increased in several dimensions. An organisation has relations to many other organisations, acting as both customers and suppliers. Each organisation is depending on several other organisations, is involved in inter-organisational development projects with other organisations, and acts as a part in many co-existing dyads, supply chains, networks, and alliances. These very complex inter-organisational contexts that have become many organisations' daily situation put increased demands on each organisation's ability to understand and relate to issues concerning business interaction. Thus, it is urgent to develop knowledge and models regarding business interaction analysis.

Initially, many textbooks and journal articles discussing electronic commerce viewed the phenomenon as an important way to handle the pressure put on modern organisations, without discussing difficulties of electronic commerce in particular detail (e.g., Tapscott et al., 1998; Turban et al., 2000). At the same time, IOS and electronic data interchange (EDI) literature has highlighted these difficulties for a long time (e.g., Cunningham & Tynan, 1993; Webster, 1993; Kumar & van Dissel, 1996). More than 10 years ago, Konsynski (1992, p. 45) already stressed the fact that IOS implies an increased complexity while involving several organisations in the development and use; for example, loss of control and influence, increased uncertainty, consensus problems, and standardisation problems. In recent electronic commerce literature, however, the conflict between possible benefits from electronic commerce and difficulties in developing IT and organisations successfully for this purpose has been more thoroughly acknowledged (e.g., Rayport & Jaworski, 2001; Chaffey, 2002; Turban, 2002). The dot com crash has resulted in many lessons to be learned (e.g., Lientz & Rea, 2001). There is also an increasing interest in these

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