Understanding the Influence of Context on Organisational Decision Making

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INTRODUCTION

Many researchers have noted the high levels of abstraction required by the representation and conceptualisation of organisational decisions when these involve more than just simple operational concerns. They have concluded that the difficulty in specifying decisions problems in tangible terms at the early stages of a decision making process makes the analysis of DSS requirements difficult with current methods. If this observation is correct, it means that, despite substantial progress in technology, for example, quicker database engines, better graphical user interfaces, more flexible development platforms, and so forth, DSS developers may not be better equipped now than they were at the beginning of the history of DSS when it comes to understanding the problems they are trying to address.

In this article, we argue that this gap in our understanding of the dynamics of DSS development must be addressed by the development of suitable analysis techniques that allow the capture of the less visible dimensions of organisational decision making. In particular, the wider context of decision making processes, for example, their political dimension, must be more finely understood by DSS developers before they propose systems that may embody elements of processes that change the information and communication webs of organisations in tangible ways.

This article presents the results of our experimentation with the application of network analysis to a large organisation and shows how this orientation, which has yet to be broadly utilised in IS research, can allow researchers to capture the context of decision making in a modern business. We demonstrate that such approaches can support more complex analysis of the decision problems that must be tackled by DSS personnel.

BACKGROUND

Following in the footsteps of Herbert Simon (1947, 1967), many researchers have studied organisational decision making and the articulation between the individual level and the level of the firm (Brunsson, 1989; Crozier, 1964, 1976; Crozier & Friedberg, 1977; Hickson, Butler, Cray, Mallory, & Wilson, 1985, and many others). Hickson et al. (1985) concluded that there was a danger in studying organisational decision making as if it were the same in every setting and situation because, "surely, the game is played differently in different organisations or with different decision topics" (p. 116).

Thus, a unique model of decision making is unlikely to cater for all decision topics and all organisational situations.

This is illustrated by claims such as Bannon's (1997) that the group decision support systems (GDSS) movement has worked on narrow assumptions and an overly rationalist perspective. Many political aspects of decision making processes in groups have been largely ignored by reduction of the aspects of the decision process to be supported to the decision "moment" when the group seeks to reach a final decision (Langley *et al.*, 1995). By contrast, researchers who have attempted to analyse the behaviour of whole organisations have pointed out that understanding the articulation between organisational action and the tasks carried out by individuals (Ba, Lang, & Whinston, 1995; Landry, 1997) is a key element. Ba et al. (1995) have concluded that

We still need a better understanding of how to decompose an organisational environment into semi-independent components in a manner which really reflects how different parts of the organisation work together to accomplish common goals. (p. 319)

Ciborra (1985) highlighted the difficulties involved in such endeavours. He explained that the traditional models of organisational decision making used in many disciplines ignore the fact that "organisations are mixtures of cooperations and conflicts between participants [and] the model assumes that all the participants share common goals" (p. 59). Studies of organisational processes will not be able to account for many of the irregularities that often appear in decision making processes if they do not focus on the actions of individuals and the roles they play in the decision making process.

We argue that the implications of these observations for DSS analysis and DSS development have not been exploited in the DSS area. The analytical tools required to carry out the contextual analysis of organisations necessitated for the development of truly useful DSS applications are missing. More specifically, the importance of a detailed analysis of the information web of the organisation where DSS applications are being developed and implemented is required as a primer for an effective and efficient organisational use of decision support systems. Understanding how these information webs are shaped and reshaped by the decision making processes of an organisation constitutes an essential step in the analysis of how to support the decision making of managers in the context of a given organisation.

In this research, we used a version of network analysis, as described elsewhere in this encyclopaedia, in order to capture and understand the organisational context and organisational decision processes of ABC Ltd. To date, experimentation with the application of network analysis to the investigation of decision situations faced by managers has yielded interesting results and confirmed the usefulness of the concept in enabling the identification of the information and communication flows amongst decisional groups and in providing DSS developers with richer insights into the processes they are trying to support (Ferioli & Migliarese, 1996). These studies reveal that the analysis of the mechanisms whereby organisations reach policy decisions result from numerous events taking place at a variety of levels from the individual level to the level of the organisation (Adam, 1996).

Network analysis views actors as participants in complex social systems involving many other actors whose behaviour and actions may affect an individual's behaviour (Knoke and Kuklinski, 1982). It focuses on identifying the properties of the networks in which actors are embedded and detecting the effects on individuals and groups behaviour. Thus, networks made up of actors, or nodes, and their relationships can be used to represent organisations and theorise about them. The network metaphor was also applied to the study of managers by Kotter (1984) who suggested that "network building" was a major activity of top managers who, especially when joining a new company, spend considerable energy in "developing a network of cooperative relationships among those people they feel are needed to satisfy their emerging agendas" (p.161). Mintzberg (1973) also described top managers as being hubs—or information processors—in the overall organisational network of actors.

According to Ferlie and Pettigrew (1996), network-based styles of management are becoming more and more important and their research has revealed the perception amongst managers that networking with external stakeholders is now a key managerial skill; although little is known about how managers should go about creating such linkages or how organisations should encourage them. Network analysis may be the key to our understanding of the internal and external fabric of relationships that exist in and around organisations; an understanding that is required for the development of better DSS applications, especially distributed and interorganisational DSSs.

The network approach to organisations suggests a radically new focus on the qualitative aspects of the relationships existing between executives at the level of the whole organisation, that is, looking at the web of all relationships existing in this organisation as opposed to the more traditional emphasis on the characteristics of a specific decision situation tackled by a single manager or a small group of managers. Thus, the network approach to organisations can constitute a useful analytical basis to guide the actions of DSS developers and enable a more insightful study of the contexts in which DSS systems are being implemented.

Network analysis was applied to the study of decision making in a large organisation undergoing drastic change following major modifications in its environment. Based on a number of interviews with top managers, we identified the overall network of actors influencing and shaping the decision making of this organisation and through the study of a number of specific instances of decisions, we attempted to refine our picture of the decision making process