

Chapter 12

Understanding Organisational Decision Support Maturity: Case Studies of Irish Organisations

Mary Daly

University College Cork, Ireland

Frederic Adam

University College Cork, Ireland

ABSTRACT

Forty years after Gorry and Scott Morton's seminal paper on DSS, supporting decisions in organisation is still a critical objective. Given the elapsed time since DSSs were first introduced, it is important to gauge the scope and quality of decision support provided to managers. Using Executive MBA students as informants about decision making in their organisations, the authors carried out 10 case studies of Irish organisations to assess their maturity in terms of decision support usage. The findings indicate that, in the vast majority of firms, decision support is still not available to help manage in situations involving high levels of abstraction. As was the case at the beginning of the history of DSS, the operational level is still where DSSs are used most consistently across firms. Furthermore, this study illustrates that engaging with managers on the topic of decision making is difficult, given the possibility of bias and misrepresentation inherent in the reality of decision making.

INTRODUCTION

Since Ackoff's seminal and provocative paper (Ackoff 1967), researchers have sought to propose concepts, systems and methodologies to achieve the goal of providing managers with the information they need to make decisions. Throughout this

time, it has remained true, however, that basic tools such as spreadsheets have formed the bulk of computer-based decision support (Fahy et al., 1996; Panko, 2006). Alter (2004) proposed that "decision support, provides a richer basis than DSS" for further research as well as for use in practice. The basis for his argument is that we

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must avoid the pitfalls that have at times plagued DSS research: techno-hype, domination of software vendors' rhetoric and failure to understand the underlying problems which decision makers are facing (Arnott et al., 2008). Recently, new terms, such as Business Intelligence (BI), information cockpits or dashboards have been proposed (Dover, 2004; Gitlow, 2005) that leverage recent technologies – e.g., web technologies, multi-dimensional modelling tools – to deliver the silver bullet solutions to managerial decision making needs. However, it seems BI as a new tool is having a similar fate as previous installments of DSS technologies, with 40% of respondents to a recent study saying that the language used by vendors can often be ambiguous or confused, and a further 44% saying that vendors are creating an unhelpful mire of marketing speak around BI (Vile 2007). This is likely to be because, fundamentally, the problems raised by managerial decision making and the provision of information to support it – especially in situations involving high levels of uncertainty or equivocality (Earl et al., 1980) – are of an intractable nature.

Decision making is inherently a human activity, as defining a human trait as language (Damasio, 1994). The role of the decision maker is to complete the model, as well as to control or to identify the gap in what has been programmed in the decision support systems (DSS) and the reality it is supposed to present (Levine et al., 1995). Situations involving high levels of uncertainty are those decision problems that have not been encountered in quite the same form and for which no predetermined and explicit set of ordered responses exists in the organisation (Mintzberg et al., 1976). The decision maker does not have a model, as they endeavour to understand the problem and provide an ordered response, long before a programmed system can be considered.

In this paper, we use Humphreys' framework of representation levels (Humphreys, 1989) to classify decision problems and Adam and Pomerol's classification of decision support in terms of

Reporting, Scrutinising and Discovering (Adam et al., 2008) to measure the extent of decision support provided by the portfolio of decision support tools in ten Irish firms. By tools we mean systems, routines, procedures and other forms of information dissemination (Simon, 1977). After eliciting the specific problems inherent in supporting managerial decision making and presenting the two frameworks used in our study, we describe the case studies on which our analysis is based. We then present our findings and conclusions with respect to the maturity of the decision problems encountered and the decision support capability of the firms we studied.

1. THE PROBLEM WITH SUPPORTING MANAGERIAL DECISION MAKING

Information systems for top management raise specific problems which have primarily to do with the nature of managerial work itself (Dover, 2004; Fahy et al., 1996; Mintzberg, 1973), as they are intended to tackle the needs of users whose most important role is “to create a vision of the future of the company and to lead the company towards it” (King, 1985). However managers also spend considerable effort in their role of “go-between”, allocating work to subordinates and networking with internal and external peers (Kotter, 1982; Mintzberg, 1973). How computer systems can be used for these activities is largely unknown apart from the use of computer-mediated communication media – for instance email, which has a long history of successfully supporting managers (Crawford, 1982), sometimes with unintended consequences (Lee, 1994). Lest these observations be dismissed as outdated, they are in fact as accurate today as they were when they were printed. Evidently, information systems can help with decision making and information dissemination, but managers spend considerable time dealing with decision problems (Simon, 1977)

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