

# IT Management in Small and Medium-Sized Enterprises

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## INTRODUCTION

Computer-based information systems have grown in importance to SMEs, and are now being used increasingly to help them compete. For example, many SMEs have turned to the Internet to support their endeavours. Although the technology that is being used is relatively well understood, its effective management is not so well understood. A good understanding of IT management is important, as the management of IT is an attribute that has the potential to deliver a sustainable competitive advantage to a firm (Mata, Fuerst, & Barney, 1995). This article shows that there is no one accepted view of the term “IT management” for either large or small firms. However, the term “management” is often considered to include the four functions of planning, organising, leading, and controlling. This framework has been applied to SMEs and specifically to their IT management. The article also shows that recent studies have shown significant links between IT management and both IT adoption and IT success. Resource-based theory is helping researchers gain a greater understanding of IT competences. These advances look likely to improve our understanding of the relationship between IT use and SME performance.

## BACKGROUND

What is meant by the term “IT management”? There are three interrelated terms that are frequently used in the literature with respect to the management of computer-based technology: *IT Management*, *IS Management*, and *Information Management*.

Two of the terms, *Information Technology Management* and *Information Systems Management*, usually refer to the same phenomenon. These terms typically refer to managerial efforts associated with planning, organising, controlling, and directing the introduction

and use of computer-based systems within an organisation. Also, we see little advantage in attempting to distinguish between information technology (IT) and information systems (IS). Thus, *IT management* and *IS management* refer to the same activities, that is, to the organisation’s practices associated with planning, organising, controlling, and directing the introduction and use of IT within the organisation.

Table 1 provides examples of the concept of *IT management*, but before that we should clarify the term *Information Management*. This is a term which has frequently been used by authors to refer to two different but related activities. Some conceptualise information management as a process comprised of planning, organisation, and control of information resources (Earl, 1989). Thus Earl’s *information management* is the same as IT management, as described above. However, other authors use the term *information management* to recognise that organisations have *information* that needs to be managed as a resource (e.g., Hicks, Culley, & McMahon, 2006). We argue that this view of *information management* is an important subset of IT management, as “IT management” as a broader term recognises that an organisation has to manage information, as well as hardware, software, people, and processes.

This characterisation of IT management is in agreement with the definition of “management” described in classical management literature, expressed as a process of four functions, namely planning, organising, leading, and controlling (Schermerhorn, 2004).

- **Planning:** determining what is to be achieved, setting goals, and identifying appropriate action steps;
- **Organising:** allocating and arranging human and material resources in appropriate combinations to implement plans;

- **Leading:** guiding the work efforts of other people in directions appropriate to action plans; and
- **Controlling:** monitoring performance, comparing results to goals, and taking corrective action.

MAIN FOCUS OF THE ARTICLE

Table 1 shows how IT management has been conceptualised in recent studies of SMEs, based on the work of Cragg (2002), Bergeron, Raymond, and Rivard (2004), Suraweera, Cragg, and Mills (2005), and Hicks et al. (2006).

Notes for Table 1:

- a. Cragg (2002) examined IT management practices in SMEs in England using case studies. The study examined 11 practices, six of which differentiated IT leaders from IT laggards in terms of IT success.
- b. Bergeron et al. (2004) used a survey of SMEs in Canada to examine the relationship between IT alignment and firm performance. The above IT variables were used to help determine levels of IT alignment.
- c. Suraweera et al. (2005) examined IT management sophistication in SMEs in New Zealand using case studies and a survey. They identified a total

of five dimensions. The first three listed above were significant in their survey sample.

- d. Hicks et al. (2006) used case studies to identify key information management issues in SMEs in the UK. They identified 18 core issues faced by SMEs, nine of which were considered as fundamental issues.

All of the sources in Table 1 are based on studies of SMEs. However, the lack of consistency across the four studies shows that IT management reflects many processes, and that we have yet to reach a consensus on how to conceptualise IT management in SMEs.

Related studies of IT in SMEs have shown that managers within the firm play a key role in both the introduction of new systems and its subsequent success. For example, Caldeira and Ward (2003) concluded that “top management perspectives and attitudes” were one of the two key determinants of IT success in SMEs. However, most SMEs do not have an IT manager, that is, a person who has IT as their prime managerial responsibility. Thus, it is not surprising that many studies have recognised that IT management practices are weak in many SMEs, relative to large firms (Cragg, 2002).

Although the IT managerial processes may differ in SMEs, it is incorrect to infer that small businesses have no sound practices in place for managing their IT. For example, both Cragg (2002) and Suraweera

Table 1. Different views of IT management in SMEs

IT Best Practices  Cragg (2002)	IT Strategy and IT Structure  Bergeron et al. (2004)	IT Management Sophistication  Suraweera et al. (2005)	Information Management Issues  Hicks et al. (2006)
Managers view IT as strategic Managers are enthusiastic about IT Managers explore new uses for IT New IT systems are customised Firms employ an IT specialist Staff have the skills to customise IS	IT environment scanning Strategic use of IT IT planning and control IT acquisition and implementation	IT planning IT leading IT controlling IT organising External expertise	Information exchange Implementation and customisation of IS Monitoring, control, and costing Information flow from customers and sales Information identification, location, and organisation Implementation and operation of quality systems Numbering and traceability of machines, assemblies, and parts Information availability and accessibility Information systems strategy and planning

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