Editorial Preface

Lessons for Managing IS in Small Firms

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Small and medium-sized firms (SMEs) are a vibrant part of all economies. Although the definition of an SME varies, for most economies, the focus is on firms with less than 250 employees. The changes engendered by large corporations that focus on their core competencies have fostered a resurgence for SMEs. Entrepreneurs identify new markets to support, which leads to a rise in specialist firms in many industries. However, the SME sector is unforgiving, with 50% of all SMEs failing within their first three years (Burns, 2001). Failure often is not due to poor business ideas but is caused more by a lack of understanding of the management issues required in order to be successful (Storey, 1994). Management means different things at different times in the life of an SME as power is delegated to managers and the SME moves from a Web-based structure that centers on the owner to a more matrix- or hierarchy-based structure that is required of larger organizations. As management structures become more formalized, SMEs require better information. Information systems (IS) are integral to the management development process.

Management IS in SMEs is typically simple in the early stages of a firm. Spreadsheets are used to manage accounts, although growing firms usually adopt simple accounting packages. As firms grow, managing customers effectively becomes important, and databases begin to be used. Many SMEs have local area networks and use external e-mail. Internal e-mail is used in larger SMEs in order to improve communication. Many SMEs have developed brochureware Web sites. However, there is little evidence of successful e-business in SMEs (Brown & Lockett, 2004).

SMEs tend to be followers when adopting management IS. While the SME sector is lauded for its flexible response to customers, there is little evidence of flexibility in its management IS. Replacement of management IS often occurs as a response to a crisis rather than a recognition that the business has outgrown the system’s ability to deliver. Most SMEs focus on survival rather than competitive advantage, which limits the agility of response to investment in IS. This is due primarily to limited resources, particularly finance, in small firms. There is also nervousness about whether the purchased system will satisfy business requirements. Since most SME IS development is outsourced, there also are concerns about adequate technical support. These problems may lead SMEs to work with small IS suppliers with the concomitant risks.

While the owner’s knowledge is critical to growing SMEs, better market intelligence and knowledge of competitive positioning are essential. Firms require ongoing capital investment to grow. In order to convince investors, timely and accurate financial information is needed. Knowledge of sales and costs as well as assets and liabilities are essential.

IS strategic planning long has been known to be essential for large firms. It is also beneficial to growing SMEs, particularly due to increasing...
complexity of system requirements as the firm grows. Successful IS adoption is more likely if SMEs have a strategy (Levy & Powell, 2000). IS strategy (ISS) is a dynamic activity carried out as part of the business strategy review. ISS provides the means to analyze management information requirements for firms in order to measure business success. The problem for many SMEs is that business strategy often is implicit and emergent. While the owner has a clear idea, it is not always communicated through the firm. Additionally, goals often are seen in purely financial terms, whereas SMEs can focus more usefully on customers, innovation, and organization. Business process review ensures consistency with business goals. Hence, an organizational approach to ISS that focuses on the organizational enablers and inhibitors of information flow and on the relationship among strategic, tactical, and operational information requirements is most useful for SMEs. In many SMEs, the issue is not additional IS but rather better use of existing systems in order to exchange knowledge.

Given the diversity of SMEs, it is important in IS research to consider their heterogeneity. Research suggests that there are four strategic responses to IS investment in SMEs (Levy, Powell, & Yetton, 2001). These responses depend upon two factors: (1) the degree of customer dominance and (2) an owner’s attitude to IS investment. The first strategic response is efficiency, which is found in startup firms and some lifestyle firms that are not looking for growth. These firms use simple management IS and see no reason to further invest. As firms grow, there is a need to manage the increasing number of customers often through investment in databases and intranets, which leads to a coordination response. Adoption here is reactive and usually cost-focused. There is no review of business processes or skills and roles. Both these responses are cost-focused, with IS seen as a necessary evil rather than having potential to change the firm.

A collaboration response to IS investment is found primarily in manufacturing firms, but it also is found in firms that are dependent upon a small number of customers. The development and maintenance of customer relationships is critical to these firms; hence, they need to invest in IS for effective management. IS investment is driven by the recognition by the SME of IS value as a contribution to developing the customer relationship. These firms likely will invest in collaborative systems that enable information exchange such as EDI and extranets. Materials requirements planning and enterprise resource planning systems also are found. The final strategic response is repositioning; diversification is the driver here, as firms look to develop markets and products, often identifying an innovative new product or means of delivery. Firms here recognize the value-adding potential of IS opportunities and are experimenters in e-business and knowledge management.

It is now common for SMEs to have e-mail and Web sites, although many will be brochure-ware. Intranets are being developed, and extranets are beginning to replace EDI. However, SMEs’ adoption of new technologies is generally cautious and dependent upon proven robustness. The decision to invest is a combination of identifying value to the business, customer demand, and improving communication. Thus, systems in SMEs evolve over time, but the premise upon which individual firms consider adoption is likely to remain the same.

There is an underlying dynamic in IS adoption as firms grow and develop formal management structures. Exchange of information within the firm requires more effective management IS. The most common strategic response to growth is movement from efficiency to coordination, as SME owners continue to perceive IS as a cost. The firms are those that are comfortable with steady growth to a limited level. These SMEs follow an evolutionary IS path with internal integration (Venkatraman, 1994) through the use of LANs or intranets. IS is used primarily to support existing processes, and little thought is given to reviewing business processes. However, as IS use grows, SMEs start to recognize that structural change may improve internal communication.

The other main growth path is toward collaboration, in which, although customer push is evident, SMEs acknowledge the valued-adding potential of IS. For these firms, product development in collaboration with major customers is critical. The relationship demands that SMEs utilize IS in order to enable the collaboration. Business network redesign is central to the strategic use of IS; however, industry demands mean that many firms move directly to this use from...
simple use of stand-alone systems. IS adoption is a strategic response, but while management processes may change in order to aid communication, there is no change in organizational structure or changed roles and skills of staff in order to achieve strategic alignment. This limits the ability of the firm to use information strategically.

Experience of the use of management IS persuades some firms to become more innovative in their use of IS and to reposition themselves in the market. Such firms usually are run by highly entrepreneurial owners. Once the internal integration benefits of IS have been achieved and the firm is running smoothly, new challenges are sought. IS often is seen as an opportunity for radical change, and new business is spun off that recognizes the network opportunities provided, particularly by Internet technologies. As changes are embedded, the need to refocus business processes is undertaken. Again, IS adoption is a strategic response, but these firms recognize the need for different structures, processes, and skills in order to achieve full strategic alignment.

Thus SMEs can benefit from strategic IS, but there is a need to consider its strategic impact. Viewing IS as a cost limits achievable benefits. It also may inhibit future learning and may be one reason why much research finds that management IS is not of much benefit to SMEs.

SMEs need to appreciate a number of issues in the pursuit of management information systems. The owner is central to all decision making. Customer pressure is also a key driver for change; hence SMEs need to be aware of customers’ future requirements for knowledge and information sharing. The greatest benefits from management IS arise when it is adopted as part of a value-adding strategy rather than viewed as a cost. A cost-focused strategy tends to limit opportunity and means that SMEs are more likely to develop operational systems. IS strategy needs to be undertaken as part of business strategy development, particularly in growing firms, in order to measure success and to ensure strategic alignment. There is potential for leverage for the firm if it more effectively uses knowledge from partners and collaborators. Finally, SMEs can review the business value to them of investing in e-business as part of their overall business and IS strategies.

REFERENCES

Philip Powell is deputy dean and professor of information management and was director of the Centre for Information Management in the School of Management at the University of Bath. He is also honorary professor of operational information systems at the University of Groningen. Formerly he was professor of information systems, University of London, and director of the Information Systems Research Unit at Warwick Business School. He has worked and taught in Australia, Africa, the U.S., and Europe. Prior to becoming an academic he worked in insurance, accounting, and systems analysis. He is the author of six books on information systems and financial modeling. He has published numerous book chapters and his work has appeared in more than 80 international journals and at over 100 conferences. He is managing editor of the Information Systems Journal, book reviews editor of
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