Trends in Information Technology in Small Businesses

Georgios I. Doukidis
Athens University of Economics and Business

Steve Smithson
London School of Economics

Takis Lybereas
Warwick Business School

It is widely recognized that IT has made considerable inroads into large organizations, such that the majority now rely on IT for their day-to-day operations. The position regarding small businesses is less clear as they face somewhat different opportunities and constraints. In particular, the approach to the introduction of IT into small firms in less developed national IT environments has received little attention in the literature. This paper reports on the results of a survey of the approaches adopted by small firms in Greece. The findings are analyzed in terms of previous experience with computers, factors influencing the decision to adopt IT, advice received, staff involvement in IS development, training, and problems encountered and the solutions adopted. The results are compared with a study performed five years earlier in order to identify recent trends.

During the last twenty years there has been considerable growth in the number and prosperity of small businesses (SBs) throughout Western economies, including Europe (Sengenberger, Loveman and Piore, 1991). This has been noticeable regardless of the political complexion of the national government. This growth, which is in line with the teachings of management theorists such as Drucker (1989) and Porter (1990), has been seen in both the manufacturing and services sectors. Across Europe, SBs are employing an increasing proportion of the total working population and are becoming increasingly identified with new products and new production processes, thus contributing to exports, national wealth and competitiveness. Many governments (at national, state and local levels) have recognized the benefits of SB growth and have attempted to provide a relevant support infrastructure in terms of local enterprise agencies or small business development centers (Gibb and Manu, 1990). SBs comprise the vast majority of businesses throughout Europe (taking the widest definition of a business, including all the self-employed), counting for more than 90 percent of businesses in the UK, Italy, Germany, Belgium, Holland and Greece.

Information technology (IT), ranging from mainframe-based transaction processing systems to office information systems based on local area networks, and ranging from computer integrated manufacturing to communications based applications such as videoconferencing and electronic mail, has made considerable inroads into large organizations. The majority of such organizations now rely on IT for their day-to-day operations. This diffusion of technology has been credited with significant cost reductions, gains in productivity and organizational effectiveness plus, in...
some cases, a definite competitive advantage (Earl, 1989). While considerable successes have been achieved, there have also been a number of technical and commercial disasters. Angell and Smithson (1991) argue that IT needs to be viewed in terms of both opportunities and risks, where the risks may outweigh the promised opportunities.

There is no reason to believe that these issues apply any less to small enterprises than to the largest multinational. Meyer and Boone (1987) outline numerous cases where small companies have benefited through the use of external databases, office automation applications (e.g. spreadsheets) and project management software. The general trend away from costly mainframe computing, based on in-house programs, towards cheaper user-friendly microcomputers, with standard software packages, means that sophisticated tools are becoming increasingly available to SBs, without the need for advanced programming skills.

However, it is less clear to what extent these advantages are realized in practice by firms in less developed national IT environments such as Greece, or how such firms approach IT in order to reap the rewards. In this paper, we report on a survey started in the summer of 1989 that collected information on the introduction and use of microcomputers in Greek SBs. We concentrated on microcomputers since this is the technology that dominates this sector. We wished to ‘paint a picture’ of the situation confronting SBs including their previous experience with computers, the factors that influenced their decision to adopt IT, the type of advice they received, the amount of staff involvement in IS development, and the type of problems they frequently encountered.

In order to identify recent trends, the results are compared with an earlier study which surveyed SBs in Greece, Denmark and Ireland in 1984 (CEC 1985). This latter study examined the approaches taken to the adoption of IT by fifty companies in each country.

Although our study uses different firms, we carefully selected the firms and designed the interview questionnaire in such a way as to render the studies as comparable as possible.

**Information Technology and Small Businesses**

Concerning the use of IT, Heikkila, Saarinen and Saaksjarvi (1991) propose three major differences between SBs and large organizations:

- SBs tend to use computers more as tools and less as a communications medium;
- the few stakeholders involved in SBs mean that there are likely to be fewer problems in terms of organizational politics;
- SBs have much fewer resources available to implement IT solutions.

While it is hard to dispute the lack of resources, the other points are less clear cut. Firstly, the treatment of computers as tools may only be a temporary phase as networks promise considerable gains for SBs in terms of collaboration with other firms. Lacking their own resources but with normally a plentiful supply of entrepreneurialism, SBs rely more on short-term subcontracting and other temporary arrangements to satisfy the needs of their customers. Secondly, SBs are not totally free of organizational conflict and family politics can be just as bitter as the politics found in bureaucracies.

Wroe (1987) argues that small firms possess certain potential advantages in making use of the technology, since they are able to complete the transition process much faster and they possess greater flexibility to undertake any re-organization required to realize the full benefits of the technology (Poutsma and Walravens 1989). Furthermore, the flexibility of new technologies facilitates small batch, tailored or niche-focused production, the preserve of the small firm. It has been argued (Dwyer 1990, Clark 1987) that IT promises considerable gains for SBs, allowing them to increase their market scope and secure their position within the industry through improved communication with both large firms and other small firms. Through accurate and systematic record-keeping, IT can help SBs in areas of traditional concern: the collection of outstanding payments, stock control, increased sales, and improved after-sales service. Although Lincoln and Warberg (1987) found that, in practice, SBs failed to utilize the marketing data that they possessed, Poutsma and Walravens (1989) argue that IT can help an SB to develop its markets, increase turnover, raise profitability, and still remain a small firm able to realize the benefits of that smallness in service and flexibility.

These views are further supported by Cornford and Whiteley (1991) who identify the following benefits IT offers to SBs:

- improved productivity and performance within the enterprise;
- greater internal control of operations;
- the possibility of new ways of managing activities;
- improved management perception and penetration of