

Information and IT in Small and Medium Enterprises

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INTRODUCTION

Small and medium enterprises (SMEs) play an important role in all economies since they employ the majority of workers. SMEs are not scaled-down versions of large businesses and differ from large organizations in a variety of ways, including greater resource constraints, a preponderance for intuitive decision-making, and a short-term operational focus rather than a longer-term strategic focus. These unique characteristics affect their investment in and use of information technology (IT). This article describes the important role of information in SMEs, the potential for IT to provide information in SMEs, the impact of unique SME characteristics on investment in and use of IT, suggestions for solutions, and concludes with future research opportunities.

BACKGROUND

It is clear that SMEs are an important part of all economies (Storey, 1994). First, SMEs employ the majority of workers (Levy & Powell, 2005). Second, SMEs also play an important role with respect to enhancing the competitiveness of economies through the processes of creation, elimination and restructuring of economic sectors (Bharati & Chaudbury, 2006). Third, in the majority of the world's emerging economies SMEs will be the predominant enterprise for the foreseeable future (Newberry, 2006). What is less clear is what exactly is considered as small and medium enterprises respectively. Even the terminology used across the globe differs. The term small and medium enterprise (SMEs) is most commonly used in Europe whilst the term small and medium businesses (SMBs) is preferred in the USA. In Africa, micro-enterprises are added to the mix with micro-, small and medium enterprise (MSMEs) and micro- and small enterprises (MSEs)

used most often except in South Africa where terms SMEs and small, medium and micro-enterprises or SMMEs are used.

Given the differing terms, it is not surprising that there is a lack of a consistent, universal definition for small and medium enterprises. There are two approaches to defining small and medium enterprises:

1. The economic definition where enterprises must have a market share such that it does not significantly affect market prices or quantities sold nationally; or
2. The number of employees (Dewhurst & Burns, 1993).

The first approach is based on the Bolton Committee study of small firms in the United Kingdom (Bolton, 1971). The economic definition led to the statistical definition that quantifies the size of the small firm sector and allows for comparative analysis over time. The statistical definition resulted in different definitions in different industries according to number of employees, turnover, ownership and physical assets. There were several criticisms of this approach, predominantly the inconsistency between the original economic definition that stipulated that there be no formal management structure and the subsequent statistical definition that included businesses with up to 200 employees. A formal management structure is typically introduced when firms reach a size of between 10 to 20 employees (Atkinson & Meager, 1994). To overcome the criticisms and the associated complexities of the first approach, the second approach became more popular (Storey, 1994). Most definitions now classify enterprises as small or medium based on the number of employees in combination with the turnover and/or total assets. The employment thresholds, turnover and assets used in the definition of SMEs vary between countries. Even within countries there are different thresholds

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with manufacturing and labor-intensive sectors tending to higher thresholds than those for service and retail sectors. Furthermore, the thresholds, particularly with regard to turnover and total assets, differ significantly between developing and developed countries.

Differences in the definitions for small, medium and micro-enterprises result from the different contexts within which SMEs find themselves. The lack of a standard universal definition can make comparisons between countries and regions more complex and affect the interpretation and comparison of research results: although the same term is used the context-based meaning may be different. The different thresholds used in definitions based on geographic location and sector must be taken into account when reading and interpreting literature on SMEs.

MAIN FOCUS OF THE ARTICLE

The Role of Information in SMEs

SMEs require access to accurate and relevant information in the start-up phase and for day-to-day operations in order to survive in the competitive business environment (Ramsey et al., 2003). Information needs in an enterprise context pertain to a specific task that is associated with one or more of the work roles played by a professional. Meeting information needs enables the professional to make strategic and day-to-day operational decisions (Ponelis & Britz, 2012). Effective decision-making, particularly strategic decision-making, is a significant contributor to SMEs' success (Robinson & Pearce, 1983). A lack of reliable information for decision-making can threaten the very survival of the SME. A common problem for SMEs is a shortage of suitable information on which to base decisions (Gordon & Key, 1987) and significant time can be spent seeking information (Jorosi, 2006).

There are two fundamental areas about which SMEs need information to support decision-making: the enterprise's competitive environment (external information) and the organizational resources and capabilities that are controlled by the enterprise (internal information) (Lin et al., 1993). SMEs rely heavily on external information in the start-up phase, in part because there is no internal data, and information about potential customers, sources of funding, busi-

ness trends, competitors, opportunities for linkages, training opportunities, new technology, and laws and regulations is vital to establishing a viable business. Although SMEs are dependent on external information for their ongoing development the capacity to use internal data to monitor the business' situation should not be underestimated. As SMEs grow the demand for internally-sourced information increases in order to ensure the smooth running of the firm (Levy & Powell, 2005). Information is needed to obtain answers to four important categories of questions in order to monitor, control, and plan operations and to make decisions:

1. 'How well is the business doing?', for example, cash flow, revenue, and monitoring of business process performance.
2. 'Which product or service is more profitable?', for example, knowing which customers are contributing to profitability provides a basis for targeting sales effort.
3. 'What if?', for example, what would happen if demand fell by 20% or production is increased by 10%?
4. 'Where should I focus my limited resources?', such as optimization of resource allocation and processes (Burns, 2007; Jorosi, 2006; Levy & Powell, 2005).

SMEs need both internal and external information for strategic and operational purposes. An increased demand for internal information in particular requires formal information systems (IS) to capture data and disseminate information (Claessen, 2005).

The Potential for IT in SMEs

Information competence is one of 9 critical success factors (CSFs) for SMEs (Sen & Taylor, 2007). Information competence is defined as the information management skills and systems to support business strategy and operations. SME survival in particular depends on cost reduction that is achieved through increasingly efficient operations; the value of IS to achieve this is widely recognized (Levy & Powell, 2005). Furthermore, IT is important to strategy in small businesses (Fuller, 1996) with information systems and strategy feeding into each other. Systems are developed to satisfy the information needs of the SME, which are dictated by

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