

SMEs in Knowledge-Based Economies

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INTRODUCTION

Today's Information Age is having a dramatic effect on businesses as well as on the life styles of people. Globalization, rapid technological change and the importance of knowledge in gaining and sustaining competitive advantage characterize this information age. Traditionally, economists have seen capital, labor, and natural resources as the essential ingredients for economic enterprise. The new economy of the 21st century is increasingly based on knowledge with information, innovation, creativity and intellectual capitalism as its essential ingredients (Persaud, 2001). Today's modern economy then, is based more on intangibles, information, innovation, and creativity, and their abilities to facilitate expanding economic potential (Persaud, 2001) and the exploitation of ideas rather than material things. Many new terms have been coined for this new economy such as "knowledge-based economy", "borderless economy", "weightless economy", and "digital economy" to name a few (Woodall, 2000). This new economy seems to defy the basic economic law of scarcity which means, if a physical object is sold, the seller ceases to own it. In this new economy, however, when an idea is sold, the seller still possesses it and can sell it over and over again (Woodall, 2000). Traditional economic theory assumes that most industries run into "diminishing returns" at some point because unit costs start to rise, so no one firm can corner the market. In the new economy, knowledge-based products and services have "increasing returns" because knowledge-based products are expensive to produce for the first time, but cheap to reproduce. High fixed costs and negligible variable costs give these industries vast potential for economies of scale (Sharma, Wickramasinghe & Gupta, 2003; Woodall, 2000).

The shift to a knowledge-based economy results largely from developments in information and communications technologies. A company's knowledge assets are inherent in the creativity of its knowledge workers combined with technological and market know-how (Halliday, 2001). Information can now be delivered with such speed

that companies must develop their knowledge assets to solve competitive problems. Knowledge-based economies offer huge opportunities for small and medium-sized enterprises (SMEs) to develop entirely new high-value products and services, add value to existing products and services, reduce costs, develop new export markets, and add value to existing activities. Implicit promises include access to world markets, low cost entry into new markets, and the ability to gain efficiencies in business processes. However, these promises may be illusory for most SMEs. Technological, organizational, and marketing hurdles are also making it more difficult for SMEs to succeed in knowledge-based economies (Acs, Carlsson, & Karlsson, 1999; Persaud, 2001). This article identifies those major factors that are hindering the success of SMEs in knowledge-based economies.

THE KNOWLEDGE-BASED ECONOMY

In a knowledge-based economy, knowledge drives the profits of the organizations for gaining and sustaining competitive advantage. Intellectual capital, that is, employees, their knowledge of products and services, and their creativity and innovity, is a crucial source of knowledge assets. The knowledge-based economy is all about adding ideas to products and turning new ideas into new products. Thus, the knowledge-based economy is all about adding ideas to products and turning new ideas into new products. Realizing the importance of knowledge assets, many companies have changed their traditional organization's structures. The traditional command and control model of management is rapidly being replaced by de-centralized teams of individuals motivated by their ownership in the companies (McGarvey, 2001; Sharma et al., 2003).

The new structure of the economy is emerging from the convergence of computing, communications and content. Products are becoming digital and markets are be-

Table 1. Key factors for SMEs

Factors	Description
Lack of Sustained Technology Developments	While borderless electronic trade and online trading hubs are opening up, many more opportunities for small- and medium-sized enterprises (Jordan, 2000), is proving to be a difficult task for SMEs in ever increasing technological environments. Only 35% of small businesses have an Internet Web site, and of those only 2% have sites with e-commerce transactions (Kleindl, 2000). Asian SMEs are even further behind the times due to poor penetration of Internet technologies and slow growth of electronic commerce infrastructure (Jordan, 2000).
Lack of Proper Information	SMEs require proper guidance in making the right choice of technology suited to their needs. Many SMEs do not have the ability, time or energy to shift to new technology either due to lack of expertise at their own level or absence of proper guidance, advice and support from big companies. Not only do they lack information about the availability and sources of the new technology, but they also lack a resource base for searching for partners (Jordan, 2000).
Inertia to Change	Many small businesses are too content to change, despite the often-surprising rewards of taking that step into the future. For example, SMEs can benefit from powerful enterprise resource planning (ERP) tools and customer relationship management (CRM) software technology solutions without investing in them, because they can rely upon rental-based enterprise solutions such as application service providers (ASPs) to provide these solutions.
Slow to Adapt E-commerce	The Internet and the Web environments are bringing fundamental changes in traditional business models. SMEs often lack the resources of larger firms and may not have the brand name recognition of Internet first movers.
Encroachment by Big Corporations into Niche Areas	The Internet and the online environments are having a major impact on how businesses operate. The Web environments allow customers to easily search and find competitive information and new sources of supply (Kleindl, 2000). SMEs have traditionally been able to gain the advantage over larger competitors by developing personalized relationships with customers, customizing their offerings, and efficiently targeting niche markets (Kleindl, 2000).
Commoditization of Suppliers	SMEs face additional pressure due to the commoditization of suppliers. This occurs when the customer can find a large number of suppliers with relatively similar offerings and then have them bid for the sale.
Competition from First Movers	SMEs face competition with online competitors who have first mover advantages. Firms that are Web pioneers already have cost advantages as they move along experience curves that relate to personnel training and management in Web practices.
Weak Supply Chains	Online communication and developing links with suppliers are impacting almost all businesses including SMEs.
Lack of Expertise	The Internet allows SMEs to communicate and transact business at any time. SMEs can use the Internet and information technologies to create unique products and services for their customers that differ from the competition.

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