Acquiring Competitive Advantage through Business Intelligence

Foad Boghrati
University of Tehran, Iran

Iman Raeesi Vanani
Department of Information Technology Management, University of Tehran, Iran

Babak Sohrabi
University of Tehran, Iran

INTRODUCTION

Since the emergence of information and communication technology (ICT) in the 1990s, a tremendous amount of socioeconomic changes has occurred, transforming daily life, global economic markets, and business practices. ICT is central to discussions about economic growth and performance because it is pervasive and widely diffused (Zhao et al., 2009). ICT development brings with it a huge demand for software in various sectors of an information society (Zhao et al., 2009). Today software is increasingly needed, both for new products as well as in various development and manufacturing processes, and software companies have a large variety of product strategies, from light web-based applications to systems integration of corporate-wide software infrastructures with which they strive to respond to customer needs on local and international markets (Ruokonen, 2008).

There are also various efforts in software firms for developing business intelligence (BI) applications for different industries to support strategic organizational decision making. The increasing needs for prompt decision making leads to the generation of information at an increasing pace. Data analysis, reporting, and query tools in BI systems can help business users generate valuable information from large volume of data. CIOs realize that data is one of their more valuable assets because data is used to generate information, so the BI applications have emerged as the top spending priority for many of them and remain the most important technologies to be purchased. The BI market has recently experienced high growth as vendors continue to report substantial profits (Chee et al., 2009).

Although software development companies are willing to provide customers with sophisticated software mechanisms and methods of business analytics, such efforts have been less studied in the internal processes of their own. This facts applies to most of the small-size software firms. The software development enterprises like SAP (Business Objects), IBM (Cognos), Oracle (Hyperion) and Microsoft (Sql-Server analysis Services) have undergone initiatives to embrace their internal processes with new BI technologies. These companies are the major source of BI software provision for the industry, but the process of internal implementation of BI systems for such companies has been rarely studied. This implementation is of more importance than deploying external BI systems for customers while not having an internal intelligence gathering and analyzing mechanism. In this article, we are trying to investigate the activities and processes of software firms in providing their internal departments with effective business intelligence software and mechanisms with which the planning and organizing departments become capable of keeping the core business under close scrutiny for gradually acquiring a competitive edge over competitors. Such activities will be aimed at uncovering the weaknesses and empowering the front departments to be more aware of the competitive market moves and to be more agile in reacting to the rapid changes in the IT industry.

BACKGROUND

Software systems are widely used in virtually all industries as a means of automating business processes. Organizations deploy them in order to provide innovative and value adding services, as well as to reduce their operational costs (Martikainen, 2007). According to Tyrvainen et al. (2008), software is vertically integrated in the beginning of its lifecycle; often both software and hardware are produced by the same vendor. However, as the organizations need to focus their efforts on a specific part in their business, parts of the software are outsourced to subcontractors or otherwise acquired from third parties. As a result, in many cases, the initially vertically integrated software eventually becomes split into a set of horizontal software layers with standardized interfaces among them, and with the software at each layer being provided by independent software vendors (Mazhelis et al., 2012).

Today software is increasingly needed, both for new products as well as in various development and manufacturing processes. Software products fall into the categories of standardized and tailor-made software project business, which are polar opposites in the international software industry (Cusumano, 2004).

This classification suggests that software-product business entails delivering standardized products with a low service content to a broad range of customers in an open competitive environment, while project business involves the design and implementation of tailor-made solutions in cooperation with a limited number of served customers in a closed market. Very few companies fit perfectly into either of the polar opposites because their offerings include both tangible and intangible elements. It is also typical for high-tech companies to shift their focus from services to products, and vice versa, during development (Mazhelis et al., 2012). Larger players in the international market for packaged software already act in accordance with the transactional logic labeled product business. On the other hand, small and locally operating companies typically follow the relational logic connected to more or less unique project deliveries, the project business. But smaller firms can also benefit from the growth of the industry through increased internationalization. Many small software companies nowadays intend to enter the international packaged software market, which naturally functions in accordance with a business logic very different from the familiar local context (Alajoutsijarvi et al., 2000).

Whatever product strategy which a firm follows, it has been argued that managerial competence, in the form of designing and implementing effective strategies for gaining competitive advantages through exploiting strengths and opportunities, and mitigating weaknesses and threats, currently remains at a rather premature stage in many software companies where technology development has traditionally been the central area of interest among managers (Alajoutsijarvi et al., 2000). In addition, because of the newness of the software industry, academic discussion on the management of the software business and software industry-sensitive business intelligence concepts have been scarce. The subject of gaining competitive advantages in the software industry, will be briefly reviewed in the following section.

GAINING COMPETITIVE ADVANTAGE IN THE SOFTWARE INDUSTRY

Competitive advantage is a popular term in many fields, and broader definitions include national, industrial, and firm levels. The advantage is termed competitive when what the firm does is unique and difficult to replicate. In the global context, developing and sustaining competitive advantage has become the core strategy for many businesses. A firm that enjoys a competitive advantage not only is more profitable than its competitors, but also grows faster because it is able to capture more market share, either directly from competitors or from overall industry growth (Rothaermel, 2008).

Today factors such as deregulation, globalization and rapid technological progress, combine to increase the competitive intensity of almost all industries. Since the only constant in technology intensive industries, such as software industry, is change, sustained competitive advantage can only be accomplished through continued innovation which implies continuous introduction of new products or services (Shay & Rothaermel, 1999). Thus strategy becomes even

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