



ELSEVIER

Expert Systems with Applications 27 (2004) 459–465

Expert Systems  
with Applications

[www.elsevier.com/locate/eswa](http://www.elsevier.com/locate/eswa)

# A resource-based perspective on knowledge management capability and competitive advantage: an empirical investigation

Shu-Hui Chuang\*

*Department of Information Management, National Chung Cheng University, 160 San-Hsing, Min-Hsiung, Chia-Y 621, Taiwan, ROC*

## Abstract

The concept of knowledge management (KM) as a powerful competitive weapon has been strongly emphasized in the strategic management literature, yet the sustainability of the competitive advantage provided by KM capability is not well-explained. To fill this gap, this paper develops the concept of KM as an organizational capability and empirically examines the association between KM capabilities and competitive advantage. In order to provide a better presentation of significant relationships, through resource-based view of the firm explicitly recognizes important of KM resources and capabilities. Firm specific KM resources are classified as social KM resources, and technical KM resources. Surveys collected from 177 firms were analyzed and tested. The results confirmed the impact of social KM resource on competitive advantage. Technical KM resource is negatively related with competitive advantage, and KM capability is significantly related with competitive advantage.

© 2004 Elsevier Ltd. All rights reserved.

*Keywords:* Knowledge management; Competitive advantage; KM resources; KM capability

## 1. Introduction

The field of strategic management focuses on understanding sources of sustained competitive (Barney, 2001; Priem & Butler, 2001). A variety of factors have been shown to have an important effect on the ability of organizations to acquire sustained competitive advantage, including the relative capability development of a firm (Johannessen & Olsen, 2003), and a firm's ability to differentiate its products (Johannessen & Olsen, 2003; Teece et al., 1997).

Knowledge management has also been described for its possible role in creating sustained competitive advantages for organizations (Grant, 1996; Johannessen & Olsen, 2003; Lado & Wilson, 1994). While the allegation that KM might be able to create sustained competitive advantage for firms is provocative, working in this area is relatively underdeveloped, both empirically and theoretically. Research on KM and competitive advantage has emphasized 'description, rather than empirical study' KM can lead to such an advantage (Holsapple & Singh, 2001; Ndlela & Toit, 2001).

A potential framework for augmenting the conceptual analysis of KM's effects on organizational competitive

advantage is the resource-based of the firm which links the competitive advantage of organizations with resources and capabilities that are firm-specific, and difficult to imitate or substitute. The resource-based view is currently the dominant theoretical perspective in strategic management literature, and focuses on costly attributes of a firm which are seen as the fundamental drivers of competitive advantage (Becker & Huselid, 1998; Nahapiet & Ghoshal, 1998). Adopting a resource-based perspective of KM, researchers have argued that the sources of firm external knowledge are easily duplicated by competitors. Rather, it is how firms leverage their KM resources to create unique knowledge management capabilities that determine a firm's overall effectiveness (Gold, Malhotra, & Segars, 2001). Thus, despite uniformly high KM resources and capability tend to be heterogeneously distributed across firms, leading to different patterns of KM use and effectiveness. However, only a limited number of studies have explored the resource-based view of KM, and the analyses to date have been mostly conceptual.

The purpose of this paper is to employ the resource-based perspective to develop the theoretical links and empirically examine the association between KM capability and competitive advantage. Sine the resource-based view explicitly recognizes the important of KM resource and capability, it offers a significant opportunity to explore these

\* Tel.: +886-527-204-11; fax: +886-527-215-01.

E-mail address: [joyce@mis.ccu.edu.tw](mailto:joyce@mis.ccu.edu.tw) (S.-H. Chuang).

theoretical complementarities in examining the relationship between KM resources and competitive advantage.

## 2. A resource-based view of KM and competitive advantage

Resource-based has emerged as a key competitive priority in many organization activities including corporate strategy (Clemons, 1991), information technology capability (Mata, Fuerst, & Barney, 1995), and KM. *Resource-based* is defined as the resources and capabilities possessed by competing firms that may differ, and these differences may be long lasting (Barney, 1991; Rumelt, 1984; Wernerfelt, 1984). Therefore, extending the traditional notion of organizational resource-based capability to a firm's KM function, a firm's *KM capability* is defined here as its ability to mobilize and deploy KM-based resources in combination with other resources and capabilities. Likewise, Black and Boal (1994) describe that a resource-based view is different in the firm's capability which will lead to sustainable competitive advantages. The KM resources further offer the type of capabilities which is difficult to imitate (Johannessen & Olsen, 2003).

Viewed from the resource-based perspective, knowledge management researchers have identified various KM related resources that serve as potential source of competitive advantage. For example, Gold et al. (2001) notes that technological resource, structural resource, and cultural resource are rare and firm specific and therefore likely to serve as sources of organizational capability. Along with competent KM skills, Lee and Choi (2003) point out that the relationships between knowledge enablers (culture, structure, people, and technology) and organizational performance. Likewise, in fostering research agenda of knowledge management, Grover and Davenport (2001) and Okunoye and Karsten (2002) describe the strategy, structure, culture, and technology as the primary sources of its business growth and improved competitiveness.

Adopting Pan and Scarbrough (1998) classification scheme for resources, key KM resources are classified in the following order: (1) the technical KM resource comprising the physical IT infrastructure components, and its KM capability (Gold et al., 2001; Lee & Choi, 2003), (2) the social KM resource comprising the structural, cultural, and human resource, and its KM capability (Lee & Choi, 2003). The next subsection presents a brief outline of the resource-based theory of the firm followed by an examination of the links between KM resources and competitive advantage.

### 2.1. KM and resource-based view

#### 2.1.1. Technical KM resource

The physical IT assets which form the core of a firm's overall information technology infrastructure comprise

the computer and communication technologies and the shareable technical platforms and databases (Gold et al., 2001; Weill et al., 1996). The technical KM resource includes IT assets and KM capability that are a shared knowledge delivery base, the business functionality of which has been defined in terms of its business intelligence, collaboration, distributed learning, knowledge discovery, knowledge mapping, and knowledge generation (Gold et al., 2001). The technical business intelligence enables a firm to generate new knowledge. The technical collaboration and distributed learning allow individuals within the firm to collaborate. The technical knowledge discovery allows the firm to find new knowledge. The technical knowledge mapping allows the firm to effectively track the source of knowledge.

A firm's technical KM resource has been described as a major business resource and a key source for attaining long-term competitive advantage (Gold et al., 2001; Nemati, 2002). The technology underpins a firm's competitive position by enabling initiatives such as product innovation, cross-functional processes, and cross-selling opportunities (Weill & Broadbent, 1998). As Gold et al. (2001) notes that the technological KM resource is the KM infrastructure that determines the business degrees of freedom a firm enjoys in its business plans. A non-integrated KM infrastructure dominated by system incompatibilities severely restricts a firm's knowledge sharing, and new creation (Stonehouse and Pemberton, 1999). Therefore, the assistance of technical KM resource is essential for initiating and carrying out knowledge management.

Viewed from the resource-based perspective, the technical KM resource provides the resources that make innovation feasible and enable continuous improvement of products (Venkatraman, 1991). The unique characteristics of the technical KM resource that enable firms to implement the right applications at the right time render the cost and value of technological innovation different for different firms. Indeed, technical KM resource that enable firms to (1) facilitate rapid collection, storage, and exchange of knowledge (Lee & Choi, 2003), (2) integrate fragmented flows of knowledge (Gold et al., 2001), and (3) converse knowledge and create new knowledge (Raven & Prasser, 1996; Scott, 1998).

#### 2.1.2. Social KM resource

Organizational social resources generally comprise the sum of the actual and potential resources available that derive from the relationships possessed by a human or in a social unit (Nahapiet & Ghoshal, 1998) Lee and Choi (2003) describe the critical dimensions of social KM resources including: (1) the structural KM resource, such as an organization may encourage or inhibit knowledge management (Hedlund, 1994; Nonaka & Takeuchi, 1995), (2) the cultural KM resource, such as an appropriate culture encourages human to create and share knowledge within an organization (Barney, 1986; Holsapple & Joshi, 2001),

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات