Journal of Business Research 63 (2010) 1273–1281

Contents lists available at ScienceDirect

Journal of Business Research

Competitive strategies and firm performance: Technological capabilities' moderating roles

María José Ruiz Ortega *

University of Castilla-La Mancha, Spain

ARTICLE INFO

Article history:
Received 1 August 2008
Received in revised form 1 December 2008
Accepted 1 August 2009

Keywords:
Technological capabilities
Competitive strategies
Moderating effect

ABSTRACT

This article evaluates the role of technological capabilities in moderating the relationship between competitive strategies and firm performance using a sample of 253 companies from the information and communications technology industry in Spain. The study tests the hypotheses that technological capabilities have a positive influence on performance. However, unlike previous research, the study gives specific consideration to how the relationship between competitive strategies and performance is moderated by technological capabilities. The findings indicate that technological capabilities enhance the relationships between quality orientation and performance, and cost orientation and performance, respectively. The obtained results suggest that the theoretical prescriptions of RBV and competitive strategy must be strategically combined within the firm for maximum effect.

1. Introduction

The resource-based view (RBV) provides a theoretical framework for determining which resources and capabilities generate sustainable competitive advantages and lead to above-normal rates of return (Barney, 1991; Wernerfelt, 1984). Resources and capabilities enable sustainable competitive advantages only if they are rare, valuable, inimitable, and non-substitutable (Barney, 1991). In this sense, technological capabilities are viewable as one of the most important, if not the most important, sources of sustainable competitive advantage (Coombs and Bierly, 2001, 2006) and different studies highlight the direct effect of technological capabilities on firm performance (Acha, 2000; Etemad and Lee, 2001; Lee et al., 2001; Afuah, 2002; Schoenecker and Swanson, 2002; Vanhaverbeke et al., 2002; Tsai, 2004; Zahra et al., 2007).

On the other hand, the competitive strategy perspective (Porter, 1980, 1985) recognizes the importance of an attractive strategic position (competitive advantage) derived from the strategic activities of the company. With the development of strategic activities, firms can achieve one of two basic types of competitive advantage that stem from industry structure, namely, low cost or differentiation (Porter, 1985: 12). Competitive strategies in general and, competitive tactics in particular, exercise a great influence on firm performance (Ansoff, 1965; Andrews, 1971; Spanos et al., 2004). “Competitive tactics” refers to the actions that are developed by a firm to establish its strategy (Barney, 2002:13). These tactics therefore reflect its strategic orientation and form the basis of competition (Covin et al., 2000). The present study focuses on the justification of different competitive tactics orientated towards differentiation and cost leadership (Dess and Davis, 1984; Robinson and Pearce, 1988).

This study is in accordance with Mahoney and Pandian (1992) and Spanos and Lioukas (2001), that the competitive strategy and resource-based perspectives complement each other in explaining firm performance. However, unlike earlier studies (Spanos and Lioukas, 2001), which focus on the mediating effect of capabilities, analyzing the moderating role of technological capabilities on the relationship between competitive tactics and firm performance is important because the characteristics of this kind of capabilities (that promote improvement and innovation) can enhance the positive effect of the competitive tactics on firm performance. This study highlights the need for a complementary interaction between these technological capabilities and the competitive tactics developed by the firm.

The main aim of this study consists in corroborating the positive influence of technological capabilities and competitive strategies on firm performance and determining the moderator role of technological capabilities on the relationship between competitive strategies and firm performance.

In this way, notwithstanding the apparently conflicting views between Porter's framework of competitive strategy and the resource-based view, both can co-exist and shape a solid base to explain firm performance.

Previous studies only analyse the direct effect of technological capabilities on firm performance. This study adds the complementary analysis of competitive strategy and resource-based perspectives to the study of the influence of technological capabilities on firm

* School of Economics and Business, Albacete, 02071, Spain.
E-mail address: MariaJose.Ruiz@uclm.es.

0148-2963/$ – see front matter © 2009 Elsevier Inc. All rights reserved.
doi:10.1016/j.jbusres.2009.09.007

performance, incorporating different competitive factors in a coherent model. Thus, one of the main contributions is that this study analyses different aspects of the differentiation and low cost strategies, thereby obtaining significant implications for the moderating role of technological capabilities.

The paper is organized as follows: the next two sections offer the theoretical foundation for five hypotheses regarding the connection between technological capabilities, competitive strategies, and firm performance. In the methodology section, the study includes the procedures used to test the hypotheses and, in the section thereafter, reports the results of the analysis. In the discussion section, the study reports the results in some detail and considers the theoretical and practical implications of the findings. The paper ends with the conclusions developed from the results obtained.

2. Background to the theoretical approaches

2.1. Resource-based view of competitive advantage

The resource-based view postulates the importance of resources and capabilities to obtain competitive advantages as an end to a greater performance (Barney, 1991; Peteraf, 1993). The RBV holds that competitive advantage comes from the firm's own resources and capabilities, rather than from product market activities and, as a result, RBV is able to account for differences in firm performance not explained by industry factors. At its core, the RBV focuses on identifying and determining the value of firm resources and capabilities (Teng and Cummings, 2002) and how firms can acquire, maintain, deploy, and develop resources and capabilities in a manner that establishes and sustains their competitive advantage (Berman et al., 2002; Knott, 2003; Zott, 2003; Ahuja and Katila, 2004). Thus, Barney (1991:102) asserts, "a firm is said to have a competitive advantage when it is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors". This competitive advantage is sustainable if "the advantage resists erosion by competitor behavior" (Bharadwaj et al., 1993: 84).

Definitions of resource are often made in terms of assets that a firm owns or has access to (Warren, 2002). Resources can be tangible assets such as facilities and process technology, or intangible, as in the case of patents, brand name, reputation and trade secrets (Hall, 1992). According to Amit and Schoemaker (1993), resources are stocks of available factors (tangible and intangible) that are owned or controlled by the firm. A capability refers to a firm's capacity to deploy and reconfigure those resources to improve productivity (Makadok, 2001) and achieve strategic goals (Teng and Cummings, 2002). A capability is a lower-order functional, operational or technical capacity that may be further subdivided into specific (individual) skills or specialized capabilities. Capabilities constitute individual skills, tacit forms of knowledge and social relations that are embedded in a firm's routines, managerial processes, forms of communication and culture (Pandza et al., 2003).

2.2. Competitive strategy and performance

Porter (1980, 1985: 12) contends that above-average performance in the long run is based on the firm's ability to achieve one of two basic types of competitive advantage — low cost or differentiation — that stem from industry structure. In particular, since the firm's objective is to sell its products at a price that exceeds the unit cost of production, the firm can either differentiate its product in order to earn a premium price or produce its product at lower cost relative to its competitors. Which position is best is a function of the industry structure: a more competitive industry probably reduces the firm's ability to influence prices suggesting a low cost position, whereas more oligopolistic (less competitive) industries may enable the firm to influence prices suggesting a differentiated position.

Both the competitive strategy (Porter, 1980, 1985) and the RBV (Barney, 1991; Bharadwaj et al., 1993) assume the importance of an advantageous strategic position (competitive advantage) derived from strategic activities developed by the firm. By means of developing these strategic activities, firms must enhance consumer utility, which depends upon the firm's supply responding to consumers' needs. Another effect of the competitive strategy, acting independently or in combination, is that the competitive strategy provides the conditions for the sustainability of competitive advantage. On the other hand, the competitive strategy will be influenced by the firm's resources and capabilities, and the more resources the firm has, the greater its ability will be to develop a competitive strategy that allows the firm to obtain competitive advantages.

3. Theoretical development and hypotheses

3.1. Technological capability and performance

A "technological capability" (Teece et al., 1997: 521) is "the ability to perform any relevant technical function or volume activity within the firm including the ability to develop new products and processes and to operate facilities effectively". Over the past decade, firms' technological capability is an important strategic resource enabling them to achieve competitive advantage within their industry, particularly in high-tech industries (Duysters and Hagedoorn, 2000). For example, according to McEvily et al. (2004), firms with superior technological competencies tend to be more innovative and thus perform at high levels. Those firms with superior technological capability can secure greater efficiency gains by pioneering process innovations (Teece et al., 1997) and can achieve higher differentiation by innovating products in response to the changing market environment (Teece and Pisano, 1994; Verona, 1999).

Despite the conceptual attention paid to technological capabilities, researchers have paid less attention to the empirical investigation of its relationship to firm performance (Tsai, 2004). However, there has been an increase in such studies. For example, Aw and Batra (1998) examine the links between technological capability and firm efficiency in Taiwan's manufacturing industry using total expenditure on R&D and on-the-job training as the proxy variables for technological capability. They conclude that technological capability has a positive correlation with firm efficiency. Similarly, Acha (2000) uses R&D expenditure, publications, and patents as surrogates for technological capability in the upstream petroleum industry and finds a positive correlation between technological capability and a firm's operational performance. Finally, Tsai's (2004) empirical analysis of a seven year panel dataset of 45 large manufacturing firms quoted on the Taiwan stock market provides statistical evidence that technological capability is an important determinant of a firm's performance in the electronic field. From these arguments the study proposes that technological capabilities have a positive influence on firm performance (Etemad and Lee, 2001; Lee et al., 2001; Afuah, 2002; Schoenecker and Swanson, 2002).

Hypothesis 1. Technological capabilities relate positively to firm performance.

3.2. Competitive strategies and performance

Porter (1980, 1985) argues that firms may select from one of three generic strategies whereby they seek, in a broad market segment, (1) cost leadership, (2) differentiation, or (3) — in a narrow market segment — a focus strategy to achieve either advantage (i.e., cost focus vs. differentiation focus). Any firm unable to clearly select and effectively execute one of these three strategies is considered "stuck in the middle."

Of the three generic strategies, Porter (1990) describes the cost-leadership strategy as the clearest and establishes that the key to this