Pergamon

Journal of High Technology
Management Research 13 (2002) 249–277

THE JOURNAL OF HIGH TECHNOLOGY MANAGEMENT RESEARCH

Technology-based competitive strategies The relationship of cultural dimensions to new product innovation

Lawrence C. Rhyne[a,*], Mary B. Teagarden[b,1], Willem Van den Panhuyzen[c,2]

[a]*Department of Management, College of Business Administration, San Diego State University, San Diego, CA 92182, USA*
[b]*The American Graduate School of International Management, 15249 N. 59th Avenue, Glendale, AZ 85306, USA*
[c]*Faculty of Economics, Vrije Universiteit Brussel, Pleinlann2, 1050 Brussels, Belgium*

Abstract

This study investigated the influence of national cultural dimensions on new product innovation. Samples drawn from the US and Belgium were analyzed and contrasted. The Belgium sample exhibited higher Power Distance (POWDIS), higher Uncertainty Avoidance (UNCAVD), and higher Masculinity (MASC) in comparison to the US sample. Belgium executives also reported greater satisfaction with the level of new product innovations than the US executives. However, quantitative measures of innovation in the US were higher. A combination of high POWDIS and an emphasis on Organization System (ORGSYS) that supported innovation was found to have the greatest explanatory power for new product innovations. © 2002 Elsevier Science Inc. All rights reserved.

Keywords: Competitive strategy; National culture; Innovation

1. Introduction

Increasing globalization, faster rates of technological change, and rapid diffusion of technology drive today's business environment (Barlett & Ghoshal, 2000, p. 104; Hitt, Ireland, & Hoskisson, 2001, p. 10). As even small high-technology firms move farther into

* Corresponding author. Tel.: +1-619-594-5905; fax: +1-619-594-1573.
E-mail address: lrhyne@mail.sdsu.edu (L.C. Rhyne).
[1] Tel.: +1-602-765-0327; fax: +1-602-843-6143.
[2] Tel.: +32-2-629-36-23; fax: +32-2-629-36-45.

PII: S1047-8310(02)00047-0

the international arena, the impact of national culture on the firms' success in worldwide markets is more often questioned. A number of authors have reported that national culture influenced innovation levels (Ettlie, Dreher, Kovacs, & Trygg, 1993; Kedia, Keller, & Julian, 1992; Shane, 1993). This study utilizes a model of strategic capability to explore the impact of national culture on new product innovation by examining and contrasting firms in Belgium and in the US.

2. Theoretical foundation

The Economics literature is replete with theories of the firm that have long sought to explain variance in economic performance and to define the boundaries of the firm. These have been characterized by Kumar, Rajam, and Zongales (1999) as technological theories that focus on the production function (Becker & Murphy, 1992; Kremer, 1993; Lucas, 1978; Rosen, 1982), organizational theories that focus on the process of control (Alchian & Demsetz, 1972; Grossman & Hart, 1986; Hart, 1995; Jensen & Meckling, 1976; Williamson, 1975, 1985), and institutional theories that focus on environmental influences (Caves, 1998; Hopenhayn, 1992; Rajan & Zingales, 1998a; Ringleb & Wiggins, 1990; Sutton, 1991, 1997).

Within the organizational literature, a set of theories has explored the role of "critical" resources (Grossman & Hart, 1986; Hart, 1995). A "critical" resource is valuable to the production process and gives noncontractual power to the agent controlling the resource. The Property Rights approach (Grossman & Hart, 1986; Hart & Moore, 1990) emphasized physical assets as the primary "critical" resource and ownership as the mechanism that attaches this resource to the right agent. Rajan and Zingales (1998a, 1998b) emphasized that the "critical" resource need not be a physical asset.

In parallel to the Economics literature, a growing stream of Strategic Management literature has focused on "resource-based" strategies as a source of competitive advantage (Barney, 1991; Wernerfelt, 1984). The resource-based theory of the firm contends that heterogeneous assets represent a necessary, but not sufficient, condition for explaining performance differences between firms. Firms attain superior economic performance only when their assets and skills become resources and capabilities, or put more simply, resources (Amit & Schoemaker, 1993). Barney (1991) defined a firm's assets as physical capital, human capital, and organizational capital. Resources have been defined as those assets that possess value, uniqueness, nonsubstitutability, and inimitability (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). These characteristics work to generate and sustain economic rents.

The resource-based theory of the firm has evolved more recently to view a firm as a knowledge-creating entity and argues that knowledge and the capability to create and utilize such knowledge are the most important source of a firm's sustainable competitive advantage (Cyert, Kumer, & Williams, 1993; Hendersen & Cockburn, 1994; Kogut & Zander, 1996; Leonard-Barton, 1995; Nahapiet & Ghoshal, 1998; Nelson, 1991; Nonaka, 1991, 1994; Nonaka & Takeuchi, 1995; Prahalad & Hamel, 1990; Senge, 1990; Spender, 1996; Teece, Pisano, & Shuen, 1990). This view does not consider the firm simply as a contractual entity. Rather, as argued by Foss (1996), the firm is a repository of knowledge stocks that are