6 Family firms and R&D spending

This chapter explores R&D spending in family firms. R&D spending is used as an indicator for long-term orientation in innovative industries. Long-term orientation refers to the stance of a firm that focuses on benefits accruing over the long term. The following research questions are analyzed: (1) Are family firms spending more on R&D than non-family firms? (2) What are the effects of family ownership, family management, and family firm age on R&D spending?

Section 6.1 poses the research questions and introduces R&D spending as a measure of long-term orientation, as well as providing an overview of the empirical work that has been done in this area. Section 6.2 uses current theory to develop hypotheses concerning the behavior of R&D spending in family firms. Section 6.3 describes the data. Section 6.4 tests the hypothesized relationships against the empirical data. Section 6.5 discusses the implications of the findings, both from a research and a management perspective. Section 6.6 summarizes the results and conclusions.

6.1 Introduction

6.1.1 R&D spending, innovation, and long-term orientation

Successful innovation usually requires a long-term perspective. It often takes years to discover a new product and fully realize its commercial benefits. Consider, for example, the cases of laser technology and fiber optics. In the case of laser technology, the scientific community had known the principles and ideas required for its invention since the 1920s. It was only in 1958, however, that Arthur Schawlow and Charles Townes introduced the concept of a laser (Schawlow and Townes, 1958). Following the work of Schawlow and Townes (1958), the first operable laser was in-

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170 The theoretical foundation for research in this area was formed in 1917 by Albert Einstein in his theory of stimulated emission (Einstein, 1916). See http://www.greatachievements.org/?id=3706 (accessed Sep. 20th, 2008).
vented in 1960, the first medical laser in 1961, and the first commercial semiconductor laser in 1975.¹⁷¹ Today, laser technology is a multi-billion dollar industry with a wide range of practical applications, such as bar-code readers, laser printers, and CD or DVD players. Lasers are also widely used in medicine and manufacturing. This example clearly demonstrates that it can take a long time for scientific knowledge to create innovative products.

The fiber-optics industry tells a similar story. In 1966, Charles Kao and George Hockham of Standard Telecommunications Laboratories in England demonstrated that optical fiber transmits laser signals better the purer the glass strands are (Kao and Hockham, 1966).¹⁷² Following this discovery, researchers immediately focused on ways to purify glass. In 1970, a team from Corning Glass Works, United States, (hereafter Corning) reported the creation of optical fibers meeting the standards set by Kao and Hockham (1966). Corning is a family firm that, at that time, was in its fifth family generation.¹⁷³ It was not by chance that Corning’s researchers were the first to develop such demanding fibers: the firm had consistently invested a large share of its profits in R&D. James Houghton, CEO of the company and great-great-grandson of Corning’s founder, Amory Houghton, explains the devotion of Corning to invest in R&D as follows:

“When I was growing up I was taught that investing in R&D was like a ‘religion’. [...] The most important effect of family owner sentiments is that you’re in it for the long run. You don’t focus on the next quarter. So Corning invested in fiber optics for eighteen years before realizing any returns.” (cited after Miller and Le Breton-Miller, 2005, p. 150).

This statement bears directly on the research questions that will be analyzed in this chapter. Are family shareholders really in it for the long-run, and do they therefore invest more in R&D than other shareholders? If so, is this true only for family firms in the first generation or does it also apply to multi-generation family firms? Finally, what happens with R&D spending when a family owner leaves the management and the firm comes under the control of a non-family manager?

Before I proceed to develop hypotheses to answer these questions, I will discuss the indicator R&D spending (Section 6.1.2) and summarize the empirical literature that uses R&D spending to measure long-term orientation (Section 6.1.3).

¹⁷² See Kaplan (2008) for a detailed study about the optical fiber industry. The study analyses investments in R&D or the patents generated from these investments for 71 firms over a period of 20 years.