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Managing risk in the formative years: Evidence from young enterprises in Europe ☆

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ABSTRACT

This paper empirically investigates aspects of risk management in young small enterprises' effort to survive and grow. We use a new dataset on several thousands small businesses in their "formative age" (2–8 years old) in 10 European countries and 18 sectors. Firms across all types of sectors use internal risk mitigation strategies to manage technology risk and operational risk. Financial risk is managed by tapping formal and informal networks. Market risk appears less amenable to internal management action. Formal network participation (strategic alliances) is a strategy cutting across all kinds of risk with the exception of operational risk. Firms in knowledge-intensive sectors (high-tech manufacturing and KIBS) engage in risk management activities more extensively. Firms led by more educated entrepreneurs and/or operating in demanding volatile markets tend to network more and to use internal risk mitigation strategies more extensively.

1. Introduction

This paper empirically analyzes aspects of risk management in young small enterprises. We investigate risk mitigation strategies in a population of several thousand newly established, independent small businesses that have entered the "formative age", determined to be 2–8 years from establishment. The examined firms operated across sectors including high- and low-tech manufacturing and knowledge intensive services.

Whereas there is an extensive literature on risk management covering all aspects of an enterprise such as project management, research and development (R&D), accounting, finance, and insurance, attention to risk management practices of small and medium sized enterprises (SMEs) is a recent development (Verbano and Venturini, 2011, 2013). This apparent gap is even more visible as regards systematic empirical evidence on the nature, extent and antecedents of risk management in small firms. This seems at odds with the widespread perception that newer and smaller firms are much more vulnerable to various types of risk (Street and Cameron, 2007) and have much higher probabilities to exit than their larger, more established counterparts (OECD, 2001). Young small companies are challenged in terms of access to resources such as human or financial capital, other complementary resources for technological development and commercialization, and access to markets. We know little about the risk management practices of the cohort of companies which have survived the first major shake-out – typically in the first 2–3 years of a firm's life – and are still small and vulnerable. This cohort is the focus of the present paper.

Risk can generally be defined as the potential that a certain action will lead to an undesirable effect, positive or negative (Leitch, 2010). The undesirable consequences of the action may affect the achievement of the strategic, operational and financial objectives of a company (British Bankers' Association, 1999). Risk can be caused by external factors (economic, environmental, social, political) or by internal factors (human resources, processes, technology) (COSO, 2004). Risks vary by sector and by type of organizational structure. All kinds of organizations – whether for-profit or not-for-profit – face risks, but not always of the same type or intensity.

Risk management is the "identification, assessment, and prioritization of risks followed by coordinated and economical application

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of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities" (Hubbard, 2009). Managing risk responsibly means developing a framework that is not too far on either side of cautiousness or carelessness (Culp, 2011). It also means that risk is inseparable from discussions of corporate strategy and financing and should be considered to be an integral part of the process from start-up to a highly-successful venture. A well thought out risk management plan can be critical to the future of a current or forthcoming venture (Andersen, 2008; Longenecker et al., 2010). The plan must concentrate on risk control – minimizing loss through prevention, avoidance and/or reduction – but also on upside gains (exploiting opportunities) (Bekefi et al., 2008). Managing risks holistically – e.g., following the enterprise risk management (ERM) approach (Beasley et al., 2005; Pagach and Warr, 2011) – is argued to provide firms a long-run competitive advantage by optimizing the trade-off between risk and return (Nocco and Stulz, 2006). Whereas the International Organization for Standardization has published "Risk Management Principles and Guidelines" (ISO 31000) designed to be the international standard for ERM providing a best practice document (Baker, 2011), the actual conceptualization of risk management must be driven by the values and priorities of the firm. It will reflect the extent of risk tolerance of entrepreneurs and investors (Palich and Bagby, 1995).

Companies can manage risk with the help of "external" sources (networking) and "internal" strategies (sensing/seizing/acting on opportunities). Through various types of formal agreements a firm can obtain the necessary complementary assets/resources and valuable information that are required to manage risk effectively. Frequently it has been argued that technology start-ups facing adverse market conditions are more inclined than larger firms to establish collaborative agreements (Colombo et al., 2006; Eisenhardt and Schoonhoven, 1996; Shan, 1990). Faced with high uncertainties and stiff competition, new and small firms in emergent sectors consider alliances to avoid vulnerable positions (due to the "liability of newness"), complete technological development and commercialize successfully (Shan, 1990). Alliances with third parties can help small firms overcome a host of technological, financial and operational challenges (Baum et al., 2000; Flatten et al., 2011; Nieto and Santamaría, 2010). On the whole, the literature indicates cooperative agreements and network strategy as a critical element in determining survival and prosperity of young and small companies (Brüderl and Preisendorfer, 1998; Havnes and Senneseth, 2001; Schoonjans et al., 2013). Having the chance to cooperate with leading firms allows access to markets and important resources such as complementary technologies, complementary skills, finance, R&D and research synergies, and more importantly, reduces various kinds of risks related to technology, market, finance and organization.

By sensing and seizing technological and market opportunities, companies can manage risk through their own internal strategic actions. Internal risk management actions can include efforts to stay ahead of the competition by frequently introducing new products/services and maintaining formal R&D department and/or engineering and technical studies departments, recognizing quickly market shifts and responding rapidly both to competitor moves and to customer feedback, maintaining formal and informal networks for easier access to business funds, and finally focusing on human resources and implementing systematic personnel training and improved communication of practical experiences. A quite extensive and diverse literature has extensively referred to these issues and offered advice for accessing the requisite capabilities (e.g., Culp, 2011; Ebben, 2005; Keizer et al., 2002; Mu et al., 2009; Nocco and Stulz, 2006; Perez-Luno and Cambra, 2013). Extant literature has by and large focused on large incumbent companies, however leaving much to be desired in terms of systematic empirical evidence addressing young small companies.

This paper concentrates on risk management in young entrepreneurial companies operating in a set of sectors that include both high- and low-tech manufacturing and knowledge-intensive business services. The paper empirically relates four types of risk – technology, market, finance, and operation risk – to risk-mitigation strategies. We employ a new important set of information on 3624 newly established (2–8 years old) independent small businesses (≤ 49 employees) in 10 European countries to understand the important factors in their efforts to mitigate risk.

Our results indicate that firms across all types of sectors use internal risk mitigation strategies to manage technology risk and operational risk. Financial risk is managed by tapping formal and informal networks. Market risk, on the other hand, appears less amenable to internal management action. Formal network participation (strategic alliances) emerges as a strategy cutting across all kinds of risk, with the exception of operational risk. Firms in knowledge-intensive sectors (high-tech manufacturing and KIBS) appear to engage in all kinds of risk management activities more extensively.

Several factors characterizing the firm founder(s) and the market the firm operates in are also important. Firms established by better educated entrepreneurs and/or operating in demanding volatile markets tend to engage more both in strategic alliances and in various internal strategic actions to manage risk. However, we could not find a statistically significant relationship between the founders' employment just prior to establishing the specific firm with either networking or with internal risk management action. This was somewhat unexpected given that prior experience is a typical risk mitigation strategy in itself.

The rest of the paper is divided into four sections. Section 2 below provides the theoretical background and builds our research hypotheses. Section 3 explains the data and our analytical methods. Section 4 summarizes our results. Finally, Section 5 concludes.

2. Theoretical background and hypotheses

The sources of risks affecting business firms abound. While consensus in the literature on the types and titles of business risks is still pending, there is significant overlap in terms of characterization. For example, the Casualty Actuarial Society (2003) classified risk types as hazard risk, financial risk, operational risk, and strategic risk. Ebben (2005) distinguished between market risk, operational risk, opportunity risk, financial model risk, and financial risk in the mix. Ekanayake and Subramaniam (2012) classified business risks as financial risk (the financial aspects of a business), operational risk (business operations and activities), environmental risk (a variety of social, economic, political and physical risks), and reputational risk (an organization's public standing and trustworthiness). Epstein and Rejc Buhovan (2005) discussed strategic risk, operations risk, reporting risk, and compliance risk. Within the context of new product development, scholars like Mu et al. (2009) and Doering and Parayre (2000) suggested three kinds of risks: technological risk, market risk, and organizational risk. And Keizer et al. (2002) identified four risk domains potentially affecting product innovation: technology (product design and platform development, manufacturing technology and intellectual property); market (consumer/public/trade acceptance and the potential actions of competitors); finance (commercial viability); and operations (internal organization, project team, co-development with external parties and supply and distribution). Finally, in their survey of the literature on SME risk management, Verbano and Venturini (2011, 2013) classified applications into