Editorial

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1 Introduction

In the entrepreneurship literature, the prevalent framework has been the general model of income choice (Knight, 1921; Lucas, 1978; Kihlstrom and Laffont, 1979; Holmes and Schmitz, 1990; Jovanovic, 1994; Blanchflower and Meyer, 1994; Blanchflower and Oswald, 1998).

The emergence of lively empirical research developed by Hebert and Link (1988), Bruyat and Julien (2000), Casson (2003), Shane (2004), Blanchflower (2007), Jungwirth (2007), and Parker (2005, 2006, 2007) stresses the need for developing eclectic approaches aiming to allow us to gauge the relationship between entrepreneurship-firm size and growth. In this framework, the topic related to opportunity for high growth firms deserves further research.

Entrepreneurship is one of the driving forces of endogenous growth in modern economies. As a primary source of job creation, economic competitiveness and innovation, governments are increasingly aware of its importance, and have been shaping public policies to foster entrepreneurial activities (Acs and Szerb, 2006; Leitão and Baptista, 2009).

The importance of public policy oriented to entrepreneurship is underlined, e.g., in the EU Commission's acknowledgment that one of the current challenges faced by the EU is to identify the main factors that determine an enabling environment for entrepreneurial initiatives across all sectors of the economy (EU Commission, 2003).

The identification and exploitation of business opportunities lies at the core of entrepreneurship (Brown and Kraus, 2009). While, for many years, opportunities available to entrepreneurs were confined to domestic borders, the globalisation of markets has expanded the scope of opportunity exploitation to the global arena. This has enabled many companies to adopt a global focus from inception and pursue a path of rapid internationalisation (Oviatt and McDougall, 1994).

According to several authors (e.g., Stearns and Hills, 1996; Wennekers et al., 2005), no single definition of entrepreneurship exists. Grilo and Thurik (2004) contend that entrepreneurship is a multidimensional concept, whose definition largely depends on the focus of the research undertaken. Concurrent with this view, the OECD considers that entrepreneurship manifests itself in many different ways, with the result that several definitions have been proposed and no single definition has been generally agreed upon (OECD, 2008).

Regardless of the notion adopted, there is some consensus that entrepreneurship revolves around the process of change (Audretsch, 2003) and innovation (Michael, 2007). Audretsch (2003, 2007) asserts that entrepreneurship is about change, since entrepreneurs are agents of change. However, such conceptualisation poses considerable complexity, as the concept of change is relative to some reference or benchmark, i.e., what may be perceived as change to an individual or organisation may not imply any novelty to the related industry. As such, the concept of entrepreneurship is embedded in the local context.

While 'invention' can be defined as the creation of something new, 'innovation' refers to an invention which is brought into use (Bozeman and Link, 1983). Taking into consideration this notion, authors such as Dimitratos and Plakoyiannaki (2003), and Michael (2007) contend that innovation is at the heart of entrepreneurship, with the entrepreneur bringing innovation to the customer whenever it takes place and, in this sense, exploiting growth opportunities based on needs that are not perfectly addressed or perceived by competitors.

2 Intangible assets: an opportunity for high growth

In the context of the knowledge economy, innovation based on intangible assets has become increasingly important, compared to traditional tangible factors, in terms of determining the firm's competitive advantages and growth.

Taking the seminal work of Knight (1921) and Schumpeter (1934) as a reference, the firm can be considered as an integrated set of capacities which are unique and difficult to imitate. From this perspective, that integrated set originates in the firm's capacity to select, mobilise and manage tangible and intangible assets in short supply, to attain high growth through developing highly differentiated activities which give greater benefit to clients compared to that offered by competitors (Winter, 1987; Prahalad and Hamel, 1990; Conner and Prahalad, 1996; Grant, 1996; Colombo and Grilli, 2005).

According to Howells (1994), firms' growth capacity depends on the interdependence established between tangible and intangible assets. Concerning tangible assets, these include new products, factories and production equipment, which in the case of small and medium-sized enterprises (SMEs) are connected to the greater or lesser capacity of their founders or managers to develop activities for the design and engineering of processes and products, so as to correspond to the competitive needs faced in the market. The author goes on to subdivide intangible assets in two categories:

1 formal (covering patents, licences, research and development (R&D), branding, other intellectual property rights and training)

2 informal (related fundamentally to tacit knowledge).

In the view of Stewart (1994), the different ways of promoting tacit knowledge are integrated in the stock of intellectual capital, which corresponds to the total stock of collective knowledge, information, technologies, intellectual property rights, experience, organisational learning and competences, team communication systems, client relationship and branding which allows creation of added value for the firm.

According to Edvinsson and Malone (1997), and Stewart (1997), intellectual stock is the total stock of intangible assets and capacities that can generate value and also competitive advantages, which means a firm can provide a greater benefit.

Intellectual capital can be classified in two basic types:

1 human capital

2 structural or organisational capital (Edvinsson and Malone, 1997; Roos et al., 1997).

The first type corresponds to the sum of knowledge, skills and innovative character (Schultz, 1961; Hermanson, 1964; Sackman et al., 1989), and is usually determined by the employees' level of commitment and capacities to attain the firm's objectives (Ulrich, 1998; Elias and Scarbrough, 2004). It should be noted that this type of capital is held by the employees and not by organisations, and can be developed through both practice and training (Miller and Wurzburg, 1995).

The second type is held by organisations and cannot easily be taken away by employees if they leave the firm. This type of capital covers all the software, databases, organisational culture, patents, trademarks and organisational capacities inside a given organisation (Edvinsson and Malone, 1997; Roos et al., 1997; Grantham et al., 1997).

According to Stewart (1994), Grantham et al. (1997) and Bozbura (2004), intellectual capital can be subdivided in three types: human, structural and client; since the relational capital developed with clients takes on special importance in determining organisations' sustainable growth, based fundamentally on the value expressed by levels of client loyalty and goodwill.

Audia and Greve (2006) advocate that company size can be understood as a function of the stock of intangible assets, namely of those originating in so-called social capital, which takes on the form of legitimacy, relationships with outside partners and trust between members of a given organisation. Therefore, SMEs' youth and sometimes, lack of social capital can contribute to reinforcing the threat inherent in the scenario of low growth, which eventually contributes to managers adopting behaviour which is more averse to risk.

As a consequence of the high level of risk associated with innovating activities which could be incompatible with small companies, it is necessary to wait some time for the desired positive effect of R&D and branding strategies on SMEs' growth to appear.

This special issue spotlights technological entrepreneurship based on intangible assets as an opportunity for promoting the development of high growth firms. The principal motivation for SME growth is the search for a minimum scale of efficiency that allows survival.

The alternative sources of growth deserve further research and understanding, especially the role played by intangible assets funded on R&D and branding strategies, and other categories of intangible assets in explaining the growth of SMEs in high-tech industries.

Thus, public policies for fostering high growth firms and corporate strategies oriented to intangible assets are needed, given the various needs associated with the greater growth in high-tech industries than in more traditional sectors, as a consequence of a minimum scale of efficiency corresponding to greater size compared to more traditional sectors.

The issue draws attention to ways in which technological entrepreneurship is an effective opportunity for contributing to more rapid and efficient growth. The two-fold strategic focus on high growth firms and corporate strategies oriented to intangible assets should be supported by policy makers in order to reinforce entrepreneurial growth and overcome recessive scenarios by using the microeconomic foundation of national competitiveness, that is, the entrepreneurial nature of the firm.

3 The present special issue

Two articles in this special issue address technological entrepreneurship and opportunities for high growth, from a macro perspective. While the first focuses on entrepreneurship support policy and analyses the Australian case (Hindle, Yencken and O'Connor), the second highlights the main characteristics of rapidly growing firms in the USA (Keen and Etemad). Two other articles use a micro perspective, by exploring the link between intangible assets based on individual-organisational factors and growth, and presenting findings from the Thuringia region in Germany (Lautenschläger) and the Milan area in Italy (Della Torre and Solari). Another paper examines innovation support service requirements for small high growth technology firms in Eastern Finland (Siikonen, Heimonen and Pellikka). Finally, two papers deal with strategies for high growth based on the intensive use of intangible assets, that is, open R&D activities and branding, by discussing open innovation in the UK biopharmaceutical sector (Gurău and Lasch) and coopetition of two global brands: Apple and Nike (Rodriguez, Souza and Leitão).

The first article examines the Australian policy environment and aims to develop an entrepreneurship policy framework for high growth firms (Hindle, Yencken and O'Connor). The authors develop a framework analysing, developing and implementing policy for young firms displaying high entrepreneurial potential. Building on prior research findings (Autio, 2005; Autio et al., 2007), the authors compare the recommendations issued to the Australian policy environment and identify several distortions: in comparison to the 'Autio' indicators, Australian entrepreneurship policy appeared to be difficult for entrepreneurs to access, positioned well down the priority list

of government policy, insufficiently targeted to high growth firms and lacking in pro-activeness. These conclusions lead the authors to develop a comprehensive policy framework for potentially high-entrepreneurial businesses by crossing the venture profile of a firm with four areas presenting potential positive policy leverage: entrepreneurial capacity, finance and industry, innovation and the market. In this way, policy shifts from targeting the venture in itself to the different areas of business this type of firm is likely to have most difficulty with. Another recommendation issued is to distinguish more clearly entrepreneurship policy from all other policies in general and small business policy in particular. Depending on the nature of entrepreneurship, different short and long-term initiatives may be designed and implemented to make entrepreneurship policy more effective.

The second paper (Keen and Etemad) shifts the focus from entrepreneurship policy to the characteristics of 6,887 high growth firms in the USA and uses a longitudinal approach covering the period 1983 to 2003. A set of hypotheses is formulated testing the theoretical relations between high growth and location, and size and temporal characteristics of high growth enterprises. The results indicate that rapidly growing enterprises located in different regions do not experience similar growth rates. Furthermore, firms located in regions with similar economic incentives display relatively similar growth rates. Thus, external factors (economics of agglomeration, externalities, regional industry clusters, policy environment) offer managers and entrepreneurs who recognise and exploit them regional competitive advantages and growth perspectives. Less in agreement with the literature are the results regarding the interaction of firm size and growth that do not ratify the generally assumed positive relationship between small firm size and rapid, high growth. Finally, temporal aspects as explanatory factors for rapid and high growth are revealed to be insignificant between small and medium-sized firms. To summarise, rapid-growth enterprises appear across all categories over the 21-year observation period.

The third article concentrates on the individual/organisational level and analyses the relationship between personal happiness and employment growth in new technology-based firms (Lautenschläger). While most literature focuses on the importance of technology start-ups for employment growth and regional economic development or the search for factors explaining performance and success, little investigation has been conducted on integrating personal perspectives when examining firm growth. The third study of this special issue intends to fill this gap and examines in particular the link between personal happiness and employment growth in new technology-based firms. Based on a sample of 441 high-tech entrepreneurs in the German region of Thuringia, three hypotheses linking personal satisfaction to firm development measures are explored (performance, employment, firm size). Overall, the performance of the firm does not lead automatically to high satisfaction in the entrepreneur in general, but must be understood in a more differentiated way. When dividing personal happiness into sub-categories (founder's satisfaction with his/her life, work, financial situation, and leisure time), employment growth in new technology-based firms is linked positively only to satisfaction with the founder's financial situation. Personnel happiness as measured in this study decreases for founders managing high growth firms, indicated by continuing satisfaction with the financial situation, but a negative impact on leisure time serving as proxy for individual happiness. To some extent, successful entrepreneurs 'pay for' high growth with sacrifices regarding individual non-monetary satisfaction.

The fourth article concentrates on the relationship between adoption of organisational innovation and the firm's economic results (Della Torre and Solari). Empirical evidence from prior studies shows this relationship to be positive; however, little investigation has been carried out for the case of small and medium-sized enterprises. Focusing on organisational innovation regarding three dimensions (organisation of work, coordination of work within the organisation, and personal management policies) in 114 firms in the Milan area, the highest performing SMEs are those having combined investments in new organisation of work with advanced technologies and benefiting from stable relational networks with other firms.

The fifth article focuses more specifically on the innovation support service requirements of small, fast-growing firms in Eastern Finland (Siikonen, Heimonen and Pellikka). The authors explore the possible enhancement of regional innovation support services to foster the overall growth of small firms. Three levels of data are considered in the study. First, at a national level 567 firms are analysed to identify the most rapidly growing industry sector. The results demonstrate that most fast-growing firms can be defined as small, knowledge-intensive business services (KIBS) providers. Secondly, 213 firms form the KIBS industry sample to clarify innovation related activities and their relationship to growth. The main findings reveal various innovation support services KIBS firms rely upon to create and commercialise innovation. Thirdly, 12 case studies put the lens on firms' requirements for regional innovation support services, identifying a concrete need for intermediary organisations to help small technology firms choose appropriate innovation support services and to act as external strategic partners during commercialisation of the innovation process.

The sixth article deals with the innovation strategies of high-technology firms in the UK biopharmaceutical sector (Gurău and Lasch). The authors investigate application and suitability of the open innovation model in this high-tech industry. Five hypotheses are formulated to measure participation in open innovation systems. Based on primary data collected from 23 managers in the UK pharmaceutical sector, the results confirm the influence of firm size on open innovation activity (small firms participate mainly in only one open innovation system, medium-sized firms display a more diversified R&D policy) and the influence of the organisational stage of the biotech firm (even the most advanced firms limit themselves to only two open innovation systems). Unlike firm size and the organisational stage of the biotech firm, the level of scientific expertise does not appear to influence the capacity to participate in open innovation systems. This result can be explained by the fact that involvement in open innovation systems may be seen as an opportunity to rectify insufficient levels of internal scientific expertise. The firm's capacity to develop cooperation has a direct impact on its participation in open innovation systems, but many small firms appear to lack formal processes and those that use more formalised and detailed analytical tools to identify potential collaboration partners are usually involved in more open innovation systems.

The last article focuses on strategic coopetition (Rodrigues, Souza and Leitão) and shows how global brands obtain benefits from forming a co-branding coopetitive alliance, although the gains obtained are not shared equally. The authors carry out a review of the literature on typologies of strategic cooperation and coopetition, putting particular emphasis on the importance of co-branding as a mechanism for strengthening the image of global brands. They develop a case study of the global brands of Apple and Nike. The main purpose of the study is to determine the process for generating and distributing the benefits of a co-branding alliance established between two global brands.

To accomplish this goal, the authors measure the brand value associated with implementation of the co-branding alliance, through a game theory application. The results reveal that adoption of a co-branding strategy between global brands contributes to increasing the reputation and credibility of brands engaged in the formal agreement, although an unbalanced result could be found in terms of global brand image. Indeed, in future research it will be important to make use of games with imperfect information and based on contract information, to analyse the returns obtained from co-branding alliances between players in the same activity sector, and also deepening the limited knowledge of growth strategies based on coopetitive alliances involving global brands and technologically-based start-ups without significant brand value.

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References

Acs, Z. and Szerb, L. (2006) 'Entrepreneurship, economic growth and public policy', *Small Business Economics*, Vol. 28, No. 2, pp.109–122.

Audia, P. and Greve, H. (2006) 'Less likely to fail? Low performance, firm size, and factory expansion in the shipbuilding industry', *Management Science*, Vol. 52, pp.83–94.

Audretsch, D. (2007) *The Entrepreneurial Society*, Oxford University Press, USA.

Audretsch, D.B. (2003) 'Entrepreneurship: a survey of the literature', European Commission, available at http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=1837 (accessed on 31 December 2010).

Autio, E. (2005) *Global Entrepreneurship Monitor 2005 Report on High-Expectation Entrepreneurship*, Global Entrepreneurship Monitor, London.

Autio, E., Kronlund, M. and Kovalainen, A. (2007) *High-Growth SME Support Initiatives in Nine Countries: Analysis, Categorization, and Recommendations*, Report prepared for the Finnish Ministry of Trade and Industry, MTI Publications 1/2007, Industries Department, Helsinki, Finland.

Blanchflower, D. (2007) 'Entrepreneurship in the UK', *Foundations and Trends in Entrepreneurship*, Vol. 3, No. 4, pp.257–364.

Blanchflower, D. and Meyer, B. (1994) 'A longitudinal analysis of young entrepreneurs in Australia and the United States', *Small Business Economics*, February, Vol. 6, No. 1, pp.1–20.

Blanchflower, D. and Oswald, A. (1998) 'What makes an entrepreneur?', *Journal of Labor Economics*, Vol. 16, No. 1, pp.26–60.

Bozbura, F.T. (2004) 'Measurement and application of intellectual capital in Turkey', *The Learning Organization*, Vol. 11, Nos. 4/5, pp.357–367.

Bozeman, B. and Link, A.N. (1983) *Investments in Technology: Corporate Strategies and Public Policy Alternatives*, Praeger Publishers, New York.

Brown, T. and Kraus, S. (2009) 'Editorial: entrepreneurship venturing as the process of opportunity, growth and value creation', *International Journal of Entrepreneurial Venturing*, Vol. 1, No. 1, pp.1–4.

Bruyat, C. and Julien, P. (2000) 'Defining the field of research in entrepreneurship', *Journal of Business Venturing*, Vol. 16, No. 2, pp.165–180.

Casson, M. (2003) *The Entrepreneur: An Economic Theory*, 2nd ed., Edward Elgar, Cheltenham.

Colombo, M. and Grilli, L. (2005) 'Founders' human capital and the growth of new technology-based firms: a competence-based view', *Research Policy*, Vol. 34, pp.795–816.

Conner, R. and Prahalad, C. (1996) 'A resource-based theory of the firm: knowledge versus opportunism', *Organization Science*, Vol. 7, pp.477–501.

Dimitratos, P. and Plakoyiannaki, E. (2003) 'Theoretical foundations of an international entrepreneurial culture', *Journal of International Entrepreneurship*, Vol. 1, No. 2, pp.187–215.

Edvinsson, L. and Malone, M. (1997) *Intellectual Capital: Realizing your Company's TrueValue by Finding its Hidden Brainpower*, Harper Business, New York.

Elias, J. and Scarbrough, H. (2004) 'Evaluating human capital: an exploratory study of management practice', *Human Resource Management Journal*, Vol. 14, No. 4, pp.21–40.

EU Commission (2003) 'Green paper: entrepreneurship in Europe', Enterprise Publications, available at http://www.studentstarter.eu/references/green_paper%20entrepreneurship%20_final_en%5B1%5D.pdf (accessed on 31 December 2010).

Grant, R. (1996) 'Toward a knowledge-based theory of the firm', *Strategic Management Journal*, Vol. 17, pp.109–122.

Grantham, C., Nichols, L. and Schonberner, M. (1997) 'A framework for the management of intellectual capital in the health care industry', *Journal of Health Care Finance*, Vol. 23, No. 3, pp.1–19.

Grilo, I. and Thurik, R. (2004) 'Determinants of entrepreneurship in Europe, Erasmus Research Institute of Management: Report Series Research in Management', available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=636815 (accessed on 31 December 2010).

Hebert, R. and Link, A. (1988) *The Entrepreneur: Mainstream Views and Radical Critiques*, 2nd ed., Praeger, New York.

Hermanson, R. (1964) 'Accounting for human assets', Occasional Paper No. 14, Michigan State University, East Lansing Michigan.

Holmes, T. and Schmitz, J. (1990) 'A theory of entrepreneurship and its application to the study of business transfers', *Journal of Political Economy*, Vol. 98, No. 4, pp.265–294.

Howells, J. (1994) 'Innovation and the nation state', *International Review of Applied Economics*, Vol. 8, pp.91–94.

Jovanovic, B. (1994) 'Entrepreneurial choice when people differ in their management and labor skills', *Small Business Economics*, Vol. 6, No. 3, pp.185–192.

Jungwirth, C. (2007) 'How market appraisal affects investments in human capital: evidence from Austrian and Swiss venture capitalists', in Dowling, M. and Schmude, J. (Eds.): *Empirical Entrepreneurship in Europe – New Perspectives*, Edward Elgar.

Kihlstrom, R. and Laffont, J-J. (1979) 'A general equilibrium entrepreneurial theory of firm formation based on risk aversion', *Journal of Political Economy*, Vol. 87, No. 4, pp.719–748.

Knight, F. (1921) *Risk, Uncertainty and Profit*, Houghton Mifflin, New York.

Leitão, J. and Baptista, R. (2009) 'Public policies for fostering entrepreneurship: a European perspective', *Series: International Studies in Entrepreneurship*, July, Vol. 22, Springer, US, ISBN: 978-1-4419-0248-1.

Lucas, R. (1978) 'On the size distribution of business firms', *Bell Journal of Economics*, Vol. 9, pp.508–523.

Michael, S. (2007) 'Transaction cost entrepreneurship', *Journal of Business Venturing*, Vol. 22, No. 3, pp.412–426.

Miller, R. and Wurzburg, G. (1995) *Investing in Human Capital*, April/May, OECD Observer, OECD Paris, France.

OECD (2008) 'Measuring entrepreneurship – a digest of indicators', OECD, available at http://www.oecd.org/document/31/0,3343,en_2649_34233_41663647_1_1_1_1,00.htm (accessed on 31 December 2010).

Oviatt, B. and McDougall, P. (1994) 'Toward a theory of international new ventures', *Journal of International Business Studies*, Vol. 25, No. 1, pp.45–64.

Parker, S. (2005) 'The economics of entrepreneurship: what we know and what we don't', *Foundations and Trends in Entrepreneurship*, Vol. 1, No. 1, pp.1–54.

Parker, S. (2006) *The Economics of Entrepreneurship: What we know and what we don't*, Summer Institute of the Entrepreneurship, Growth and Public Policy Group, Max Planck Institute of Economics, July, Jena, Germany.

Parker, S. (2007) 'Which firms do the entrepreneurs come from?', *Economics Bulletin*, Vol. 10, No. 10, pp.1–9.

Prahalad, C. and Hamel, G. (1990) 'The core competence of the corporation', *Harvard Business Review*, May–June, Vol. 68, pp.79–91.

Roos, J., Roos, G., Dragonetti, N. and Edvinsson, L. (1997) *Intellectual Capital: Navigating in the New Business Landscape*, Macmillan, Houndsmills, Basingtoke.

Sackman, S., Flamholtz, E. and Bullen, M. (1989) 'Human resource accounting: a state-of-the-art review', *Journal of Accounting Literature*, Vol. 8, pp.235–264.

Schultz, T. (1961) 'Investment in human capital', *American Economic Review*, Vol. 51, No. 1, pp.1–17.

Schumpeter, J. (1934) *The Theory of Economic Development*, Translation of the 2nd German edition by Redvers Opie, Oxford University Press, London.

Shane, S. (2004) *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*, Edward Elgar, Cheltenham.

Stearns, T. and Hills, G. (1996) 'Entrepreneurship and new firm development: a definitional introduction', *Journal of Business Research*, Vol. 36, No. 1, pp.1–4.

Stewart, T. (1994) 'Measuring company IQ', *Fortune*, January, Vol. 24, p.24.

Stewart, T. (1997) *Intellectual Capital: The New Wealth of Organizations*, Doubleday/Currency, New York.

Ulrich, D. (1998) *Delivering Results: A New Mandate for Human Resource Professionals*, Harvard Business School Press.

Wennekers, S., van Stel, A., Thurik, R. and Reynolds, P. (2005) 'Nascent entrepreneurship and the level of economic development', *Small Business Economics*, Vol. 24, No. 3, pp.293–309.

Winter, S. (1987) 'Knowledge and competence as strategic assets', in Teece, D. (Ed.): *The Competitive Challenge: Strategies for Industrial Innovation and Renewal*, pp.159–184, Ballinger, Cambridge, MA.