
Editorial: Entrepreneurship, innovation and globalisation

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1 Aim of this special issue

The aim of this special issue on 'Entrepreneurship, Innovation and Globalisation' is to bring together different directions of empirical, conceptual and theoretical research. First, entrepreneurship researchers are increasingly interested in new technology-based firms and ventures that compete across national borders. Second, researchers in international management are enlarging their focus on established multinational corporations and include young entrepreneurial firms in their research agenda. Third, entrepreneurship often includes, by definition, innovative behaviour to create value in a firm. The entrepreneur can build a company around a new technological idea or innovation. This special issue aims to focus on the creation and acquisition of innovation and new knowledge based on the premise of the ongoing process of globalisation. Contributions having an international orientation which looked at small young technology-based firms as well as the entrepreneur in different organisational settings, were welcomed.

2 Structure of this special issue

The papers in this special issue may be structured according to three categories:

- 1 national/ regional innovation systems and internationalisation of innovation,
- 2 managing the global innovation process in multinational companies
- 3 innovation in young small and medium-sized enterprises.

Two papers highlight, from different perspectives, the relationship between the national and regional innovation system and the internationalisation of innovation. José Molero and Joost Heijs, from the Complutense Institute for International Studies and Department of Applied Economics of the Complutense University of Madrid, Spain, offer an analysis of the impact of the innovative activities of foreign firms on the national system of innovation, with Germany, Ireland, Norway and Holland as examples. Using the data set of the first Community Innovation Survey (CIS) of the European Commission, they carried out a parallel examination of the innovative behaviour of national firms compared to subsidiaries of foreign multinationals. On the basis of contingency tables and the estimation of a logistic regression model they prove that the investigated foreign firms have similar innovative behaviour compared to the national ones. They conclude that policies on the national and European level may stimulate a deeper integration of foreign

firms in the national/ regional innovation system by upgrading domestic human resources and infrastructure.

The paper written by Xiangdong Chen, of the School of Economics & Management, Beijing University of Aeronautics & Astronautics, China, analyses the regional dimension of innovation in the context of the Chinese economy. It develops an innovation matrix as a research framework: research-based vs. production-based innovation, and knowledge creation vs. learning. In doing so, the paper describes typical innovation activities in developing countries with China as an example. Based on an empirical study on 31 regions in China, the research reveals that the different types of innovation activities are geographically differentiated in the investigated Chinese regions. Further, the author concludes that the research-based innovation type is largely related to the supporting policy of the government whereas production-based innovation is primarily influenced by foreign direct investment of multinationals and the development of market mechanisms.

Three contributions deal with the question as to what degree multinational companies have internationalised their innovation activities and how they control and coordinate the global innovation process within the corporation. Based on a survey among senior technology officers of 209 large companies from western Europe, North America and Japan, Guido Reger from the Institute for Innovation and Internationalisation at the University of Applied Sciences Brandenburg, Germany, shows a growing trend towards the internationalisation of research and development (R&D) in multinational companies. Further, a significant difference in the degree and the ways of R&D internationalisation can be observed. The investigated Japanese companies have the lowest internationalised R&D activity compared to the North American and western European corporations. Whereas the Japanese and North American companies strongly follow a concept of generating technology in their home country, western European companies give more room to building up centres of excellence and their own competencies in R&D units abroad.

William H. A. Johnson and John W. Medcof, of McMaster University, Michael G. DeGroote School of Business, Hamilton, Canada, examine entrepreneurial activity in the form of strategic subsidiary initiatives within multinational firms by utilising an extended agency theory perspective and extant empirical findings. The analysis using traditional agency theory suggests that entrepreneurial subsidiary initiatives are unlikely given the risk necessary in putting forth an initiative and lack of incentives on the part of traditional subsidiary management. In developing an extended principal-agent analysis the authors discovered that the risk attitudes of both the parent company and the subsidiary as well as the internal contracting system of the multinational enterprise are rudimentary to a theoretical understanding of subsidiary-driven initiatives. The paper theoretically explains the findings of the largely inductive empirical research that entrepreneurial spirit is necessary for any subsidiary initiative. The perspective laid out by the authors provides a theoretical framework for making sense of initiatives and may lead to better managerial practice for the future management of subsidiary initiatives that play an increasingly important role in the innovation activities of multinational enterprises.

Based on the assumption that the innovation process in multinational companies is more and more a global process, the paper written by Januar Siswanto (Nortel Networks), Dietmar Wikarski and Guido Reger (both of the University of Applied Sciences Brandenburg, Germany) tackles the question of how intranets can be used as internal co-operation platforms. The intranet, groupware and workflow management systems enable the improvement of communication, coordination and cooperation between different

functions and units dispersed worldwide in the innovation process. The requirements of the innovation process to information and communication (IC) technologies are analysed, various IC tools are described and linked to specific activities in the innovation process. However, the utilisation of IC technologies is not an easy managerial task; both opportunities and risks exist in equal measure.

The perspective of young small and medium-sized enterprises (SMEs) and their innovation activities in the background of the globalisation process is highlighted in three contributions. Despite the ongoing debate on the 'globally new-born enterprise' the papers show that the activities of young SMEs and their closely linked actors like technology transfer organisations can still be characterised by non-globalisation. Mona Domaas Wibe from the Centre for Technology, Innovation and Culture at the University of Oslo, Norway, and Rajneesh Narula from the Department of International Economics and Management at the Copenhagen Business School, Denmark, analyse the process of knowledge creation by Norwegian software firms through interactive learning. Both authors take an innovation systems approach, arguing that knowledge creation is a complex and systemic phenomenon not easily duplicated elsewhere. Interactive learning is understood as a composite concept, describing several interrelated learning processes at work on every level of the economy. There are undoubtedly several complex forces at play which determine the extent and location of innovation by firms, and which have been the object of numerous other studies examining the centripetal and centrifugal forces underlying the innovative activities of firms. Wibe and Narula come to the conclusion that despite numerous factors and conditions that should - *ceteris paribus* - encourage Norwegian software firms to globalise their innovative activities, they remain largely non-globalised, and that this is due, in part, to the complexities of interactive learning in an innovation system.

Jörn-Axel Meyer, (Institute for Business Administration, especially SMEs), at the University of Flensburg, Germany, provides us with a more detailed view about how SMEs manage innovation. His paper is based on an empirical study among more than 300 SMEs and analyses the knowledge and use of professional innovation methods in young innovative companies. He compared his results with previous research on this topic, unveiling that more complex methods, in particular, are less known and used today by young SMEs. In absolute figures and compared to big companies, knowledge and use of innovation methods in the SMEs investigated are rather low. However, a higher complexity and number of products obviously forces the intensive use of such methods. The author concludes that young SMEs are not less innovative than large companies but their innovation management is not as method orientated and professional.

Achim Walter, of the Institute for Corporate Strategy and Innovation Management, University of Karlsruhe, Germany, Michael Auer, (Steinbeis University Berlin, Germany), and Hans Georg Gemünden, (Institute for Technology and Management, Technical University of Berlin, Germany) analyse in their contribution the impact of personality, competence, and activities of academic entrepreneurs on technology transfer success. In fact, they look at an institution which should support technology transfer to SMEs in particular. This empirical study is based on a national survey among more than 200 independent German technology transfer centres (TTC) of the Steinbeis-Foundation and assesses the degree of success which technology providers have in transferring technology to industry, taking into account the differing entrepreneurial behaviour of the centres' directors. Walter, Auer and Gemünden conceptualise entrepreneurial behaviour

as promoting opportunities, building capabilities, and accomplishing objectives. Their results of a LISREL analysis show that entrepreneurial behaviour of a TTC director has a strong direct impact on the organisation's effectiveness and fosters the organisation's network competence. Furthermore, directors acting as entrepreneurs shape incentive systems that encourage R&D personnel to seek transfer opportunities and to collaborate with industrial enterprises. Finally, the study reveals that the willingness to take risks, willingness to accept responsibility, need for achievement, and management competence are powerful predictors of TTC directors' entrepreneurial activities.

3 General conclusions

The papers published in this special issue on 'Entrepreneurship, Innovation and Globalisation' analyse the topic from different perspectives and at different levels of aggregation. This makes it difficult to come to detailed joint conclusions. However, a few more general conclusions seem to appear through the reading of this special issue.

One is that there is still a big gap between large multinationals and young small and medium-sized enterprises in the degree and development of their international innovation activities. The 'globally new born enterprise' seems to be the exception and the rule is the locally-embedded SME. Whereas young SMEs still have to fight in order to manage professionally their innovations, large multinational companies are increasingly moving their R&D activities abroad. Another general conclusion points to the importance of entrepreneurial activities. The internal entrepreneur ('intrapreneur') is of course needed for the foundation and management of innovative SMEs. However, this strong need also seems to be true for public, non-profit intermediary organisations like technology transfer centres and large multinationals. If the locally-embedded entrepreneur becomes a globally-acting entrepreneur, the internationalisation process may be propelled further forward.

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Complutense Institute for International Studies and Department of Applied Economics at the Complutense University of Madrid.

The network is open to other scholars in this field which is amply demonstrated by the contributions from other authors to this special issue. I have to thank all authors for their efforts to make this special issue an interesting publication. Further, I want to express my gratitude to the numerous reviewers who helped to select papers and increase the quality of the contributions. Sincere thanks to my colleague Professor Hans Hinrich Lembke who fortunately supported me in preparing this special issue.