



UNIVERSITY OF TARTU
Faculty of Economics and Business Administration
Centre for Entrepreneurship

ENTREPRENEURSHIP IN ESTONIA: POLICIES, PRACTICES, EDUCATION AND RESEARCH



Entrepreneurship in Estonia:
policies, practices, education and research

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Faculty of Economics and Business Administration
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**ENTREPRENEURSHIP IN ESTONIA:
POLICIES, PRACTICES,
EDUCATION AND RESEARCH**



TARTU UNIVERSITY
PRESS

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PREFACE

In October 2004, when Tartu University joined the international project BEPART – the Baltic Entrepreneurship Partners, the Tartu University Center for Entrepreneurship offered to review the situation in entrepreneurship studies in Estonia and thereafter publish the results jointly with its BEPART partner in Tallinn. Our colleagues in Tallinn University of Technology, Professor Ene Kolbre and Associate Professor Urve Venesaar, at once expressed readiness to contribute to the joint publication. PhD student Janita Andrijevskaia agreed to coordinate our joint activities. The writing and production process started in December 2004. Together with peer reviewing, it took eight months to prepare the book for international reviewing.

The book is due to be brought out for the Second BEPART conference “Towards Entrepreneurial Regions: Universities and Innovation Networks Challenged by the Knowledge Society” to be held on 26–27 October 2006 in Tartu, Estonia. The conference serves as a meeting point for representatives of universities, businesses and regions, but also signifies a very important process in which the traditional missions of universities – teaching and research – have been complemented with a third one – economic and social development of society. Adoption of the third mission by universities is called the second academic revolution.

One of the attributes of entrepreneurship is understood as a societal phenomenon which pursues the opportunities beyond the tangible resources. Enterprise as social capability is especially important for a small country with scarce natural resources, such

as Estonia. Universities' entrepreneurial spirit is a precondition for creating intangible resources for new opportunities. On our way towards an entrepreneurial university we have received kind support from all our eleven BEPARTners around the Baltic Sea.

The editors are very grateful to all the authors for their contributions and peer reviews, to the language editor, Eda Tammelo, and to the technical assistant, Merike Kaseorg, for their outstanding work.

A particular debt of gratitude goes to Professor Paula Kyrö from the University of Tampere, Professor Gerald Braun and Kerstin Wilde from the University of Rostock for reviewing the articles and making valuable comments and suggestions. Especially helpful was cooperation with Prof. Kyrö on the topic of scientific writing, which made it much easier for us to fulfill our role as editors.

Tõnis Mets
Centre for Entrepreneurship
University of Tartu

1. ENTREPRENEURSHIP RESEARCH AND DEVELOPMENT IN ESTONIA: UNIVERSITY PERSPECTIVES

Tõnis Mets

Janita Andrijevskaia

Urve Venesaar

Ene Kolbre

The editors of the current book represent two leading entrepreneurship research centers of Estonia – the faculties of economics and business administration of the country's largest seats of learning, the University of Tartu and Tallinn University of Technology. Joining their efforts, the staff of the two institutions contributed the articles to the present collection, providing an account of the development of entrepreneurship in Estonia. Not only the situation up to now, but also future trends in four domains: policies, practices, education, and research are covered.

The main purpose of this introductory chapter is to start a discussion about how entrepreneurship is conceptualized in Estonia and thereby bridge some gaps in the body of the book. The present chapter falls into two parts. In the first part, we present the principles guiding the selection of articles for this book and give a brief overview of the latter's structure. The second part gives a bird's eye view of entrepreneurial development and the future perspectives of entrepreneurship research and development in

Estonian universities, particularly in the University of Tartu and Tallinn University of Technology.

Starting collecting data on entrepreneurship studies in Estonia, the editors of the book announced a call for papers, addressing the researchers and professors of the faculties of economics and business administration of the two largest Estonian universities. We expected articles that would concentrate on two large areas – entrepreneurship and the relevant context of Estonia. Because the term “entrepreneurship” is often conceptualized quite differently, we specified it for the book and potential authors, using the definition suggested by Fry, 1993; Wickham, 2004; Kao, Kao and Kao, 2002. According to them, the term “entrepreneurship” denotes the following:

- Starting and developing business innovatively;
- Style or type of management, incl. SME management;
- Any creative and/or innovative activity increasing value for society.

It was especially emphasized by the editors that the terms *economy* and *business* are not synonymous with the word “*entrepreneurship*”, even though mass media sometimes fails to distinguish between them.

The structure of the book roughly follows the order of the topics as given by the title. Some papers are rather single-domain-oriented, for instance, Chapters 11 and 12 (the authors being Karotom and Päril). The rest of the authors have predominantly chosen a multi-domain approach to entrepreneurship. The first two topics of the book – policies and practice – are the focus of the following articles:

- Estonian SMEs in the context of EU accession – Chapter 2 by Smallbone and Venesaar.
- Activity regulation of sole traders – dimensions of economy and legislation as main components of entrepreneurship policy – Chapter 3 by Teder and Kirsipuu.

- The organizational mechanism of leverage as a success factor of global entrepreneurial management of knowledge-based businesses and the related R&D-policy problems for small countries and SMEs – Chapter 4 by Mets.
- Entrepreneurial aspects in internationalization – Chapter 5 by Roolah and Chapter 6 by Vissak.
- De-internationalization of enterprises – Chapter 7 by Reiljan.
- Less attention is paid to one of the most important functions of entrepreneurship – innovation, but fortunately the gap is filled to some degree by Ukrainski in her analysis of wood sector – Chapter 8.
- Organizational, behavioral and international business–culture dimensions in entrepreneurial management (Chapter 9 by Varblane, Männik and Hannula; Chapter 10 by Vadi, Lõhmus and Kask).
- Aspects of labor organization and usage of accounting information – Chapter 11 by Karotom and Chapter 12 by Pärl.

Quite well are represented the topics of the third domain – aspects of entrepreneurship education in university and life-long learning – Chapter 13 by Kolbre, Piliste and Venesaar. The authors compare the attitudes to entrepreneurship among students and in society as a whole.

The fourth domain, a general overview of entrepreneurship research since the end of the 1980s is presented in Chapter 14 by Venesaar and in Chapter 15 by Andrijevska. Both papers demonstrate that previous research has focused on:

- SMEs and their environment;
- The support system for SMEs, incl. financing and advice;
- Internationalization of SMEs.

The areas covered by the research of the last five years are mostly related to the state-level entrepreneurship support and economic development aspects, i.e. entrepreneurial policy topics. A good overview of the studies can be found in the Appendix to Chapter

15. The list of 41 studies in it shows that the distribution of the research methods used by the studies is the following: 24% of the entrepreneurship studies were statistical data or questionnaire-based surveys, 34% used interviews, 19% qualitative methods, 8% case-studies and 14% other research methods. A world review of top-level research suggests that surveys have the highest frequency in entrepreneurship research – 64%, being followed by case-studies – 16%, and interviews – 12% (McDonald, Gan and Anderson, 2004). Does the proportional difference in the application of survey as a method refer to shortcomings in the entrepreneurship research in Estonia? This is a question for further studies. It seems that the statements by which Urve Venesaar characterized the situation in Chapter 14: “Entrepreneurship studies have been conducted with the support of external financing” and “their direct impact on entrepreneurship policy has been weak” are well fit to conclude the book and its overview.

However, it would be incorrect to finish the introduction on a negative note without throwing light at further perspectives and the potential role of universities in Estonian entrepreneurship research and development. One of the challenges for university and society collaboration is serving the concept of entrepreneurial university. The second part of the introduction therefore briefly describes the new developments towards entrepreneurial university in Tartu and entrepreneurship initiatives at the Tallinn University of Technology.

Entrepreneurship research and development in a small state like Estonia should proceed in close collaboration with its largest universities, especially as far as strategy building and moving towards knowledge-based economy and society are concerned. For universities this means that they have to give up their ivory tower attitudes and become generators of economic wealth in society.

The entrepreneurial paradigm of a university in the triple helix of University-Industry-Government relations has become the con-

cept leading to in-depth understanding of the innovation processes in knowledge economy (Etzkowitz *et al.*, 2000).

It can be reported with satisfaction that some milestones on the way to becoming entrepreneurial have been passed by the University of Tartu:

- The Tartu University Institute of Technology was established in June 2001 with the main mission to create a basis for high-tech economy in Estonia through the R&D activities;
- The Faculty of Economics and Business Administration started a Master's Program in "Entrepreneurship and Technology Management" in 2002;
- As a result of the economics faculty's initiative in 2003, the University of Tartu established the interdisciplinary Centre for Entrepreneurship in Spring 2005.

The above-mentioned Centre for Entrepreneurship has as its main targets:

1. Development of entrepreneurship and innovation education in the university curriculum.
2. Development of entrepreneurship research.
3. Shaping of entrepreneurial attitudes in university members and students.
4. Fostering enterprise spirit at the university as an institution, and following entrepreneurial patterns in its relationships with society.

Pursuit of these goals means continuing the already started processes of establishing networks for entrepreneurial knowledge transfer and participating in them. Examples of activities in this field at the University of Tartu in the last four-year period involve:

1. Collaboration with international university partners and business experts from Zernike Group, Netherlands, in teaching the master students in the program "Entrepreneurship and technology management".
2. International events such as seminars and symposiums on different topics of technological knowledge transfer, also ex-

change of university scientists and business practitioners for the purposes of commercialization of university research results.

3. Participation in different national and international networks and development of collaborative projects: the national SPINNO program, the EU Marie Curie program of knowledge transfer, the EU INTERREG IIIC project Baltic Entrepreneurship Partners – BEPART together with 13 institutions of higher education, etc.
4. Entering new research fields and participating in international research projects in the framework of the LEED Program (Local Economic and Employment Development) of the OECD, “Knowledge-Based Entrepreneurship: Innovation, Networks and Systems” of EC, etc.

Establishing new goals also means developing new knowledge and new fields of entrepreneurship research not covered by the current book. The basis for new knowledge creation is researchers adopting an interdisciplinary approach, knowing the logic not only of SMEs and business in general, but also possessing the content and context of knowledge-based business and society. It also means having the necessary skills to participate in and lead these processes both in business and society. Good preconditions for the birth of new research fields are created by the master’s program graduates in entrepreneurship and technology management.

The future of university development lies in the integration of entrepreneurship research, new business creation and consultations with practice-oriented teaching, i.e. creation of entrepreneurship laboratory/laboratories. In this meaning the university, on the one hand, will itself become a laboratory, a space for new spin-off companies with new technology ideas, and on the other, an active partner in the entrepreneurial network regionally and globally.

Tallinn University of Technology (TUT), whose mission is to provide educational, research and innovation services in the fields

of engineering and entrepreneurship which are internationally competitive and significant for Estonia's sustained development realizes the factors contributing to entrepreneurship development in its teaching process as follows:

- Compulsory courses in entrepreneurship and business administration for students of engineering;
- Teaching courses related to starting up and development of business for students enrolled in business administration programs;
- Training courses in entrepreneurship.

In 1991, the curriculum of Business Administration updated according to the requirements of economic environment, was developed for bachelor and master-level students. In addition to these, in 1996 an MBA program was developed for people with practical work experience. Special programs supporting the development of entrepreneurship are run, apart from the School of Economics and Business Administration, by the Faculty of Mechanical Engineering (Industrial Engineering and Management); the Faculty of Information Technology (Information Technology for Business), and by the TUT Kuressaare College (Entrepreneurship).

To ensure the international competitiveness of both the whole Estonian society and the academic staff, to support economic independence and to ensure the supply of resources required for development, Tallinn University of Technology is now managing change by having adopted the so-called model of entrepreneurial university. The most important projects from the perspective of developing entrepreneurship are:

- The SPINNO Programme, launched by TUT in cooperation with the Enterprise Estonia, the main objectives of which are to notably increase the business knowledge of the academic staff, to develop a system of offering knowledge-based services, to enhance the protection and commercialization of intellectual property, and to develop and support the entrepreneurial activities of its academic staff.

- The Tallinn Technology Park Development Foundation. In the long term, TUT is planning to set up an international-level technology centre in Tallinn – the so-called Technopolis that would be based on TUT as an educational and competence centre, the Technology Park, and social infrastructure such as sports facilities, student campus, the housing estate for the academic staff, etc.

Being open to international cooperation, TUT participates in several EU programs, is involved in international research and development agreements, and has received over a hundred individual research grants from different foundations and organizations.

The School of Economics and Business Administration¹ (SEBA) at Tallinn University of Technology is a national centre of education, research and development in the field of economics and business. Its objective is to assure reproduction of academic competence and to engage in international educational and scientific collaboration in economics and in the areas that relate modern technology with economics².

The Department of Business Administration of the School of Economics and Business Administration, including the Chair of Entrepreneurship and the Centre for Economic Research, play an important role in entrepreneurship education and research.

The School of Economics and Business Administration has long-term experience in entrepreneurship and SME research based on its national as well as international research programs. Its research and development activities are arranged through departments and the Center for Economic Research, established in 2005. The latter's predecessor, the Estonian Institute of Economics at Tallinn University of Technology participated in a number of international research projects (e.g., EU Phare ACE Program, Ecos-

¹ A successor of the Faculty of Economics and Business Administration since 2005.

² <http://majandus.ttu.ee/>

Overture) being one of the few institutions that started with research in the sphere of entrepreneurship and small businesses in the early transition period and representing Estonia actively in international research projects. The main issues have been related to the analysis of survival and growth of enterprises and their support needs, the evaluation of factors of business environment influencing the development of the private sector and assessment of the impact of public policy on the regional and entrepreneurship development.

Today, SEBA is participating in a number of national and international networks and projects aiming at the development of entrepreneurship, entrepreneurial education and innovation, e.g. the EU INTERREG IIIC project "Baltic Entrepreneurship Partners (BEPART); EU 6th Framework Programme projects: Manufacturing Visions – Integrating Diverse perspectives into Pan-European Foresight (ManVis); The Moving Frontier: The Changing Geography of Production in Labor-Intensive Industries (MOVE); etc.

Currently, SEBA is actively seeking new teaching programs and methods in order to further the entrepreneurship education provided to students of both economic and technical specialities. New approaches are planned for the development of adult training programs. SEBA is also open to new challenges of entrepreneurship research and research on knowledge-based developments in society.

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2. ESTONIAN SMEs IN THE CONTEXT OF AN ENLARGED EUROPE

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Abstract

The rapid development of the SME sector in Estonia during the 1990s has been assessed as one of the positive factors in Estonia's recent economic development. At the same time, certain structural weaknesses associated with the relatively short time that has elapsed since the start of the transformation process, together with the new challenges faced by SMEs as a result of Estonia's entry into the EU, make this an appropriate time to review the current state of SME development in the country and the priorities for the future of the sector. The main empirical evidence on which the paper is based is drawn from a large-scale telephone survey of 1,912 SMEs undertaken in December 2002. The analysis includes: the manager's assessment of the current constraints on business development as well as their competitive strengths; issues related to workforce skills and the efficiency of the operation of Estonian labour markets from an SME perspective; access to finance of different types; access to different types of information, including that which is directly related to the EU internal market; awareness and use of state support measures and agencies; administrative and regulatory issues. The survey revealed some positive (e.g., structural development, penetration of foreign markets) as well as negative (e.g., low birthrate, modest impact of

public policy measures) aspects in SME development. The paper will conclude with a summary of the implications of the analysis for SME policy in Estonia.

Introduction

This paper is concerned with the characteristics, strategies and development problems of Estonian SMEs prior to Estonia's accession to the EU. Particular attention is paid to the constraints identified by entrepreneurs on their ability to develop their businesses, sources of finance and awareness and use of business services. It complements previous papers dealing with the nature of the challenges facing SMEs in the EU's new member states (Smallbone and Rogut, 2003; Smallbone and Venesaar, 2004), which included a review of institutional changes in Estonia relevant to entrepreneurship and SME development. The present paper complements these earlier papers by presenting evidence of the current state of the SME sector, based on the largest business survey ever undertaken in Estonia.

Estonia is an interesting case, because, unlike the new EU members from Central Europe, Estonia is a former Soviet republic, with a very short recent history of private sector development, yet with a rapid increase in the number of SMEs associated with a very liberal market approach to economic and trade policy. The context for the paper is that the rapid development of the SME sector in Estonia during the 1990s has been assessed as one of the positive factors in Estonia's recent economic development. For example, as a result of the growth of the SME sector, the share of employment in SMEs achieved nearly 76% of total employment in the business sector in 2002. At the same time, certain structural weaknesses associated with the relatively short period of time that has elapsed since the start of the transformation process, together the new challenges faced by SMEs as a result of Estonia's entry to the EU, make this an appropriate time to review the current state

of SME development in the country and the priorities for the future development of the sector.

The paper draws on empirical evidence from a large-scale telephone survey of 1912 SMEs, undertaken in December 2002, which was designed by David Smallbone and implemented by a market research company on behalf of the Estonian Ministry of Economic Affairs. To be eligible for inclusion in the survey, enterprises needed to be independently owned, employ less than 250 and operate in either the secondary or tertiary sectors. All sectors were included, except for those engaged in agriculture, fishing and forestry. Respondents were sampled from two databases of the Commercial Register (i.e. on businesses and sole proprietorships). A stratified random sampling design was used, with the actual results from the sample survey weighted to make them representative of the total population of SMEs in the country¹, based on quotas for 28 cells (i.e. 4 size groups: 0, 1–9, 10–49, and 50–249 employees and 7 fields of activity based on the NACE classification).

Since the survey was designed to enable some comparisons to be made firstly with a previous survey of Estonian manufacturing enterprises, undertaken in 1998; and secondly, with the ENSR survey reported in the Sixth EU SME Observatory report, it is possible to assess the current state of SME development in Estonia, both historically and, to some extent, in comparison with the existing EU member states. The assessment selectively uses survey results with respect to managers' assessment of the constraints they face in developing their businesses, as well as their assessment of any competitive strengths, labour-related issues, access to finance, access to information, awareness and use of state programmes and agencies, and administrative burdens and regulatory issues.

¹ The weighting was undertaken in three stages, taking into account size categories, fields of activity and regions.

Profile of Estonian SMEs

The *size distribution* of Estonian enterprises does not look significantly different from that in a mature market economy, which is reflected in the weighted survey results: 79% were very small firms (0–9 employees) (27% with no employees other than the owner), 17% were small firms (i.e. 10–49 employees) and a further 4% were medium-sized firms (i.e. 50–249 employees). In the UK, by comparison, 99.1% of the total stock of 3.8m businesses are small firms, employing less than 50 (DTI, 2003). In terms of *sectors*, services (i.e. accommodation, catering, finance) accounted for the largest proportion of firms (27%), followed by retailing (20%), manufacturing (17%), wholesaling (14%), education and health care (8%), transport and communications (9%), and construction (7%).

In terms of *age*, 20% were less than three years old at the time of the survey, having first started trading between 2000 and 2002; a further 35% between 4 and 7 years old, 33% between 8 and 11 years old in 2002, and 9% were 12 years old or more. Although still lacking in terms of the number of well-established SMEs that exist in a more mature market economy, the age profile of the Estonian SME sector is maturing in comparison with the mid-1990s, when it consisted mainly of very young firms.

Two key *performance indicators* included in the survey were firstly, sales turnover in 2002 compared with the previous year and secondly, whether or not the firm was profitable in the last year, which are combined in summary form in Table 1. Although crude, accurate financial data are notoriously difficult to obtain from SMEs, which means that the use of simple nominal categories for profit/breakeven/loss and increasing/decreasing/stable turnover are justifiable indicators of SME performance. Table 1 shows that slightly less than half of all the surveyed firms had been able to increase sales in 2002 and in 20% sales had actually declined. This is not a particularly healthy situation, since some

growth is almost certainly necessary for firms to survive in the longer term.

Table 1. Summarizing the performance of surveyed SMEs 2001–2002

	Increased sales	%	Stable sales	%	Decreased sales	%	No	%
Profit	570	32	414	23	253	14	1237	68
Breakeven	64	4	105	6	43	2	212	12
Loss	179	10	119	7	65	4	363	20
All firms	813	45	638	35	361	20	1812	100

Not surprisingly perhaps, differences in business performance can be observed between different enterprise size groups, with very small firms (0–9 employees) being outperformed by small firms (10–49 employees), which in turn were outperformed by medium-sized firms (50–249 employees). This is reflected in the proportion of firms in the different size groups to report profits in 2001: from 65% of very small firms to 79% of small to 82% of medium-sized companies. It is also reflected in the proportion of firms to have increased sales in 2002 compared with 2001: 42%; 55% and 59%, respectively.

One in five SMEs is involved in making some *sales in foreign markets*, although predictably there are significant differences between firm size groups in this regard (0.001 level), ranging from 17% of very small firms, to 35% of small firms to 55% of medium-sized enterprises. This compares with 25% of businesses in a comparable survey of SMEs in the UK that were generating 6% of total annual sales from foreign sources (Michaelis *et al.*, 2001). There are also significant sectoral differences in the propensity of SMEs to be involved in export markets (0.001 level): highest in manufacturing (47%), transport and communications (31%) and wholesaling (26%), and lowest in education, healthcare and other services, retailing and construction (8% each). Clearly, for SMEs in manufacturing particularly, the small size of Esto-

nia's domestic market means that foreign market sales are almost a necessity for many enterprises. Whilst this particularly applies to small and medium-sized manufacturing enterprises (60% and 86% of which respectively reported some export sales), even among very small manufacturing enterprises, 32% were exporting.

Less than one in five Estonian SMEs (19%) belong to some form of *business association or employer's organisation*, although predictably the rate varies significantly between firm size groups and also between sectors. Whereas a majority of medium-sized firms were members of such an organisation (63%), only a minority of small firms (29%) and a small minority of micro-enterprises were represented in this way. In sectoral terms, it was firms in the manufacturing, education/health care/other services and transport/communications sectors that showed an above average propensity to be members of such an association.

Manager's assessment of the main constraints facing their businesses

Changes in perceived barriers over time

One of the indicators of the extent to which the transformation process has contributed to the emergence of market-based conditions and institutions is the nature and scope of the constraints on business activities reported by entrepreneurs. In the SME survey undertaken in late 2002, entrepreneurs were asked to assess the importance of a number of potential constraints on their businesses during the 12 months prior to the interviews, on a 5-point Likert scale from 'a very important problem' at one extreme to 'not a problem at all' at the other.

The main constraints identified by SMEs across all sectors in the 2002 survey were: 'finding a market' (which 42% rated as a problem/important problem), taxes, availability of finance, crime,

labour skills, and administrative/regulatory burdens. All of the listed factors were identified by at least 25% of respondents. Since similar questions were asked in two previous surveys of manufacturing SMEs, 2002 survey responses for manufacturing are separately identified in Figure 1, which shows that the most frequently mentioned problems were broadly similar to those for all sectors, namely:

- Finding markets (by 42% of firms, including 11% for whom it was rated as 'a very important problem');
- Taxation (by 36% of firms, including 7% who rated it as 'a very important problem');
- Accessing finance (by 34% of firms, including 12% for whom it was rated as 'a very important problem');
- Crime (by 30% of firms, including 8% for whom it was rated as 'a very important problem').

A comparison of the results from the two surveys indicates that 'finding markets' has remained a consistently reported concern of entrepreneurs in manufacturing firms. At the same time, taxes, supply issues, administrative barriers and infrastructure have grown in relative importance, while workforce skills and the availability of finance have significantly decreased as problem issues.

In an earlier survey in 1995, involving manufacturing SMEs in Poland and the Baltic States, the most commonly mentioned constraints identified by the 100 Estonian entrepreneurs interviewed were the level of taxation (by 39%), weak domestic demand (by 32%), the strength of competition in the domestic market (30%), the need to modernise equipment (30%), and a shortage of external finance (by 22%) (Smallbone *et al.*, 1997). This comparison shows that although taxation remains a concern for Estonian entrepreneurs, over time it has been replaced by market-related factors as the most commonly perceived constraint, with crime emerging as an increasingly significant problem.

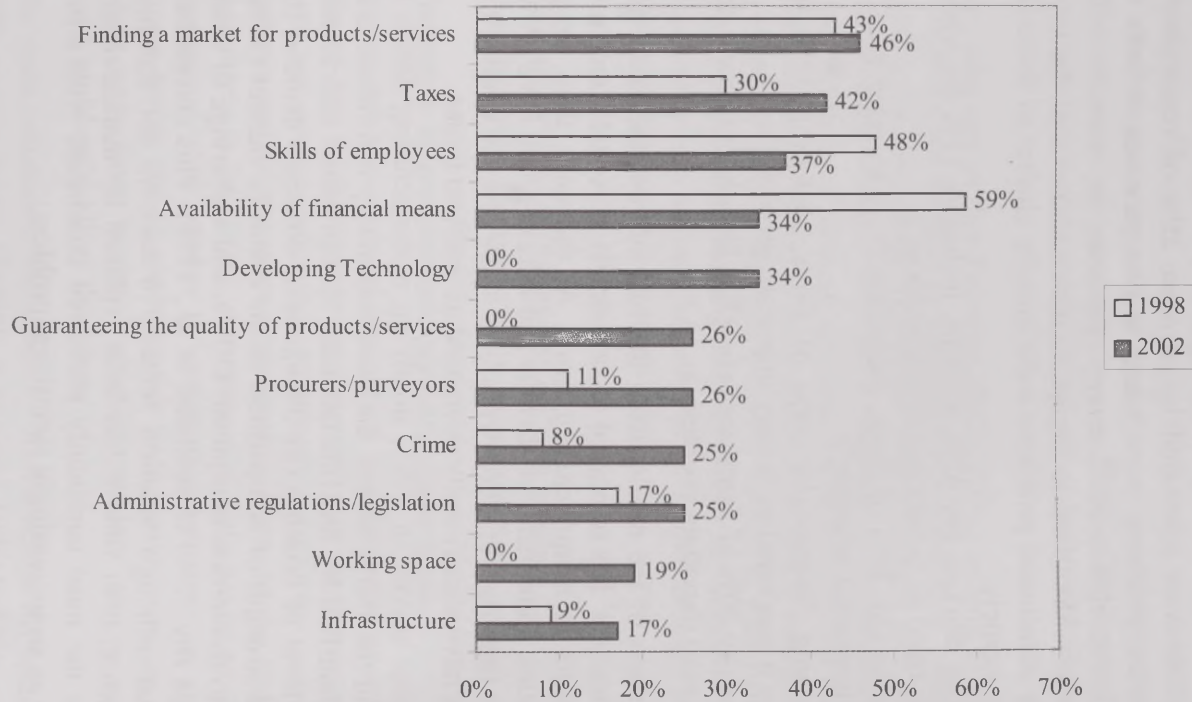


Figure 1. Constraints on business development identified by surveyed firms in 2002 (Manufacturing). (Jurgenson *et al.*, 2003)

With 6.5% real GDP growth in 2001 and 7.2 in 2002², it is difficult to explain the rise in the relative importance of demand and market-related factors primarily in terms of short-term macroeconomic conditions. It would seem that the concerns of Estonian entrepreneurs increasingly reflect growing competition associated with emerging market conditions, as well as the commonly reported weaknesses of SMEs with respect to marketing. It is significant that problems associated with finding markets for products/services were consistently reported across the firm size groups.

Labor-related constraints

Employee skills-related issues were identified as a problem by 26% of the firms surveyed in 2002, with a small minority (i.e. 7%) considering it a major problem. Not surprisingly perhaps, more detailed analysis shows that this is an issue which is significantly related to firm size; for example, 57% of firms employing between 50–249 employees identified it as a problem, compared with 21% of very small enterprises (i.e. 0–9 employees). This is compatible with the results of previous research in mature market economies, because of the tendency for most human resource-related problems to increase in importance with increasing firm size, at least until the human resource management function begins to become more formalised and, ultimately, separately identified and managed (Atkinson and Meager, 1993).

When managers were specifically asked to evaluate the degree of ease or difficulty with respect to recruiting particular types of employee on the labour market, 42% referred to the difficulties in recruiting skilled workers, with 22% describing it as very difficult. If the firms stating they had no need for skilled workers are excluded, the proportions rise to 60% and 32%, respectively. Not surprisingly perhaps, the problem is sectorally concentrated with

² <http://www.eestipank/info/> (September 2005)

skills-related problems highest in manufacturing (74% referring to 'difficulties' and 39% describing it as 'very difficult', construction (67% and 34%, respectively), and wholesale firms (65% and 38%). There are also significant spatial variations (0.05 level) in the reported frequency of skilled labour shortages, with firms located in towns outside Tallinn and the larger centres appearing to experience the most problems: 69% and 37%, respectively; compared with large towns, such as Tartu, Pärnu and Narva (63% and 33%); Tallinn (57% and 29%); and rural areas (53% and 30%)³.

These results suggest that there is an ongoing mismatch between the supply and demand for labour in Estonia, emphasising the importance of prioritising the reform of the vocational training system. However, since this is likely to take some time to produce results, the short-term solution may be to encourage business owners to train their existing employees. In this regard, when asked what proportion of their employees had been involved in in-service training during the previous 12 months, 59% of the respondents reported having trained at least some of their employees, and 47% to having trained at least some of their managers. Not surprisingly, there was a high degree of correlation between firm size and the propensity of firms to have been involved in management and/or employee training.

Comparison of the extent to which Estonian enterprises have been involved in training their employees in 2001–2002 with results from a similar survey of enterprises in EU member states during 1998 (European Commission, 2000) shows Estonian firms to have been more likely to be involved in training their employees. This might reflect the reported shortage of workers with the required skills, as well as the legacy of transition in Estonia, where the labour market is still adjusting to the needs of the emerging market

³ All these percentages are based on firms that stated they had no need for skilled workers being excluded.

economy. At the same time, the survey results provide some evidence to suggest that a culture of training is beginning to develop in the Estonian SME sector, which in the majority of cases involves external organisations delivering formal training courses. Significantly, this is an aspect that has grown in importance since the EMOR survey of manufacturing enterprises in 1998 (Phare, 1998), when only 43% of firms reported using courses run by an external training organisation, compared with 70% of manufacturing enterprises in the 2002 survey; moreover, 60% reported using in-house training, without external help in 1998, compared with 50% in the 2002 survey.

Sources of finance

Although access to finance was the third most commonly perceived constraint by Estonian entrepreneurs (by one third of respondents), comparison with the survey results from the existing EU countries suggests that the problem may not be significantly worse than in mature market economies, at least as far as established SMEs are concerned. While this may reflect the rapid development of the Estonian banking system, associated with a high degree of foreign participation, this does not mean that financial markets in Estonia operate perfectly as far as SMEs are concerned. Nevertheless, it is an aspect of institutional reform where recent progress has contributed to increasing convergence with mature market economies.

The 2002 survey revealed that, as in mature market economies, only a minority of Estonian SMEs received external finance at start-up. For example, in order to give an up-to-date picture of the sources of finance used at start-up, businesses founded in, or after, 2000 were asked to identify the main sources of finance used when the businesses were started. The results show that only 32% of all new businesses had received some form of external finance at start-up, and the figure falls to 21% if loans from family and

friends are excluded. This is significantly below the level of start-ups in a UK context, where approximately 35–40% of start-ups access bank loans (cf. Ram *et al.*, 2002). As a result, the vast majority of new business start-ups in Estonia are still reliant on self-financing, in a context where the scope for accumulated or inherited wealth is less than in most mature market economies.

Where some external finance (other than from family and friends) was accessed, it was typically in the form of a bank loan (52% of all new firms reporting some form of external finance, representing just 11% of all new firms), equity from local sources (25% and 5%, respectively), some form of state financing (i.e. a loan, a loan guarantee or a grant) (by 11% and 2%, respectively), and foreign shareholders (9% and 2%, respectively). Although the overall pattern of distribution between sources of finance is not significantly different from that in a mature market economy, the overall level of dependence on self-financing, including family and friends is higher than in a country such as the UK. While bank finance is very much the exception for Estonian start-ups, in 40% of the minority of firms that attracted it, more than half the initial funding came from this source, with the rest typically contributed by the personal equity stake of the entrepreneur.

Sources of finance for established SMEs

In order to obtain an indication of the current/recent level of expressed demand for bank finance by Estonian SMEs, all the surveyed respondents were asked if they had applied for bank finance during the three years prior to the interviews. In practice, 25% of all firms reported seeking bank finance on at least one occasion during this period, with the propensity to report this increasing with the age of firms: for example, 19% of young firms that had started trading between 2000–2002 had sought bank finance on at least one occasion, compared with 25% of those who started trading in 1996–1999; 29% of those who started in

1992–1995; and 33% of those in the oldest age group (i.e. those who commenced trading before 1992).

Firms seeking bank loans also tended to be the larger enterprises (46% of SMEs compared with 20% of self-employed and micro-enterprises). There was also significant variation between sectors, with manufacturing, energy and resource based industries (32%), retail (29%), and transport and communications (29%) at one extreme, and construction at the other. Almost two in five firms that had sought some bank finance during this three-year period had done so on more than one occasion (39% or 4% of all firms). However, it appears that the majority of firms applying for bank finance (82%) actually received at least part of what they were seeking, although it may have taken them more than one attempt to achieve it. In fact, more than two thirds of firms received all they were asking for on each occasion, with only 19% being completely unsuccessful the first time. These results suggest that access to finance, which approximately one third of the surveyed firms identified as a constraint on business development, is not mainly a supply side failure, as far as established SMEs are concerned, unless a high proportion of businesses are being put off applying for external finance because they believe their application will be refused. The results reported in the subsequent paragraph suggest that there may be demand-side deficiencies, with a need to educate Estonian business owners about the importance of adequate financing for their businesses, if they are to operate successfully, with a potential to grow. When firms that had not sought bank loans were asked the reasons, the overwhelming response was that entrepreneurs did not perceive any need for external finance (74%).

In fact, only 29% of firms where entrepreneurs identified the availability of finance as a problem had actually sought bank finance during the 2000–2002 period, compared with 24% of those who had not identified financial constraints. Although it can be argued that a strong perception among SME owners that

applications for bank finance are likely to be turned down is likely to contribute to reducing the incentive to apply, the reported evidence is, firstly, that most entrepreneurs in Estonia actually applying for bank finance receive at least some of what they are looking for, and secondly, that most entrepreneurs who do not apply for bank loans explain this in terms of a lack of perceived need. The results confirm that any attempts to increase the supply and availability of different types of finance in Estonia need to be at least matched by initiatives designed to increase the level of effective demand for it, linked to a wider strategy of building the competitive capacity of Estonian SMEs.

Table 2. Sources of external finance used by surveyed firms: 1999–2002

Source	No	%
Leasing company	543	28
Bank (Loan)	398	21
Family & friends	169	9
Factoring	49	3
Foreign mortgage	30	2
Other foreign sources	46	2
Other local sources	36	2
State grant	17	1
Guaranteed loan	12	1
Other sources	7	–
At least one external source	985	52
At least one formal external source ⁴	891	47
No of respondents	1912	100

Source: 2002 survey data.

Respondents were also asked if their business had actually used external funds from a range of specified sources during the three years prior to the interview. As Table 2 shows, 52% of all the sur-

⁴ i.e. excluding family and friends.

veyed firms reported having used some form of external finance during this period, or 47% if family and friends are excluded. The table emphasises the increasing role played by leasing in the Estonian market for SME finance, since this was the most frequently mentioned source. Not surprisingly, the table also shows that it was common for firms to be accessing finance from a number of sources, since 985 businesses received funds from 1,307 external sources during this period.

Investment finance

Almost two thirds of the surveyed firms reported investing in some form of capital asset in 2002 (e.g. machinery and production equipment; office equipment, vehicles or premises). However, this conceals a significant difference (0.01 level) between firm size groups: from just over half of micro-enterprises (57%) to the vast majority of small (87%) and medium-sized firms (93%). There were also significant differences in the propensity to invest between sector groups, from manufacturing (75%) and transport and communications (72%) at one extreme to retail sales (51%) at the other. Not surprisingly, there were also marked sectoral differences in the targets for investment; for example, machinery and production equipment in manufacturing and construction; office equipment, particularly in business services; vehicles, particularly in the transport/communications and wholesaling sectors; and premises, particularly in retailing. In a majority of cases, (54%), the amount invested totalled less than 100,000 kroons (Euro 6,400 approx), although in 10% of cases, it was more than 1m kroons (Euro 64,000 approx).

The most commonly reported sources of finance for investment in 2002 were reinvested profits (78% of the firms investing, or 49% of all firms; leasing (18% and 12%, respectively); loans from family and friends (8% and 5%, respectively); bank loans (8% and 5%, respectively) and additional equity from shareholders (8%) and 5%, respectively). Significantly perhaps, 43% of those

investing claimed that tax exemption on reinvested profits⁵ had encouraged them to make the investment, although 47% stated that it had not and a further 10% did not seem to know, which probably means they were unaware of this concession. Small (55%) and medium-sized enterprises (64%) appeared to have been more positively influenced to invest by the tax exemption on reinvested profits than micro-enterprises (38%).

Respondents were also asked if they were currently seeking external sources of funding to finance investment. In fact, only 17% of all the respondents stated that they were, which may partly reflect the low level of future investment plans, but also a high propensity to self-finance any investment that is undertaken

Access to information and business advice

The most commonly reported source of information about potential business clients was 'word of mouth' (60%), followed by the Internet (30%) and 'other media' (27%). Formal business support organisations, such as Chambers of Commerce, business and professional associations, and local enterprise centres were only mentioned by a handful of respondents as a source of potential clients (*circa* 2% in total). The emphasis on 'word of mouth' suggests that informal network contacts are the predominant means of obtaining information about customers in Estonia and by SMEs of all sizes: medium (69%), as well by small (61%) and micro-enterprises (59%). The Internet is gaining in importance for this purpose, although, once again, there is a positive association between firm size and reported use of the Internet.

Only 21% of the firms could recall searching for information about public sector grant programmes, with significant differences between firm size and sector groups (0.001 level). In terms of

⁵ This is a current policy measure in Estonia designed to encourage firms to invest in modernising equipment.

size, 34% of medium-sized firms reported actively seeking out grant information, compared with 26% of small and 19% of very small enterprises. In terms of sector, manufacturing firms were the most active sector group in this regard, with transport and communications the least active (12%). Not surprisingly perhaps, the sources of information about public sector grant programmes were quite different from those reported as a source of information about potential customers. In the case of state grant programmes, it was the Internet (58% of those seeking grant information), other media (27%), local enterprise centres (12%) and training courses (5%) that featured most prominently, with 'word of mouth' being mentioned by a modest 11% of firms.

When the respondents were asked about any types of information they experienced difficulties in obtaining, the two most commonly mentioned are both under the influence of the state: firstly, information about state regulations and legislation; and secondly, information about state financial support schemes. Information about potential customers and new markets, which is in third place, was mentioned by far fewer respondents than state regulations and programmes. Certainly, there would appear to be a need to improve the availability of information about both state regulations and public support programmes, on the basis of this evidence.

One of the ways in which SMEs can overcome some of their internal management resource constraints is through the effective use of external advice and consultancy. The survey results indicate that 39% of Estonian SMEs reported using some form of external advice in 2002, which is significantly less than the 56% reported in a recent survey of SMEs in the UK. Although the propensity of firms to have used external advice increased with increasing firm size, there is little sectoral variation. When firms that had not used external advice or consultancy were asked why not, by far the most common reason given was that there was 'no

need' (86%), with the cost and 'lack of suitable consultants' also mentioned by a small minority (7% each).

Significantly, the most frequently mentioned fields of advice used were legal advice, accounting and taxation, which are all mainly linked to the daily operation of businesses rather than to business development and/or strategic issues. The most commonly used sources of advice and consultancy were private consultants (42% of users), business partners (35%) and friends/family members (19%) rather than banks and accountants (9% each), which are the most commonly used sources in some mature market economies, such as the UK.

It is clear from these results that the market for business advice and consultancy is still developing in Estonia, with deficiencies apparent on both the demand and supply sides of the market. The results also suggest a rather 'arms-length' type of relationship between banks and SMEs in Estonia, reflected in the very low level of use of bank managers as sources of business advice, as well as the limited development hitherto of recognition by Estonian entrepreneurs of the potential benefits of professional advice and consultancy to the development of their businesses.

The public policy dimension

Awareness and use of public policy measures

More than three quarters (77%) of enterprises reported knowing of the existence of state support measures, although only 12% claimed to have a good knowledge. At the same time, the survey revealed that only a very small proportion of the respondents had ever benefited from some form of state support programme (3%), such as start-up assistance (1.3%), a training subsidy (1.3%), a loan guarantee (0.6%), and/or infrastructural support (0.4%). A small proportion of firms had benefited from more than one of these. Part of the problem would appear to be that Estonian entre-

preneurs are simply unaware of what is available, although this is less of a problem with start-up assistance (where 25% were unaware) compared with other types of support. For example, in the case of infrastructural support, more than half of the respondents (59%) were unaware: 47% in the case of the loan guarantee scheme and 39% in the case of training subsidies. Moreover, the information gap is wider than it appears from these figures, since approximately half of those respondents that were aware of support measures had only a very vague knowledge of what was on offer. Clearly, one of the weaknesses of the current SME policy revealed by the survey is the low level of entrepreneur's awareness of what is on offer.

Interestingly, although small and medium-sized firms showed a higher level of overall awareness of state support measures, compared with micro-enterprises (83% and 76%, respectively, or 16% and 11% claiming a good knowledge), the difference between the size groups in terms of actual take-up was much greater (6.0% and 1.0%, respectively)⁶. Although a majority of the respondents claimed some awareness of state support measures, there was less specific knowledge about which agencies or organisations to use, in order to access them. For example, 71% of the respondents stated that they did not know which organisation to approach if their firm wanted to use one of the specified state support measures in the future. Those respondents that claimed to know which agency to approach mainly referred to their local enterprise centre (10%) or Enterprise Estonia (7%), the Ministry of Economic Affairs (3%), the Internet (3%), Kredex (2%), and a bank (2%). Self-employed people and micro-enterprises were typically less able to name an appropriate agency than SMEs.

Although survey respondents did not necessarily associate a local enterprise centre with access to a government business support

⁶ Significant at 0.001 level, when the 0–9 employee group is compared with the 10–249 employee group (based on total company employment).

programme, 51% of all the respondents were able to name the local enterprise centre that is closest to them. However, only 12% had ever made use of the services of their local centre (and almost half of these within the previous year). While a majority of users (72%) described their last contact as useful (or very useful), a significant minority (25%) described it as not useful, although there was some variation in user's assessment between different types of use. For example, although client firms were generally positive about the use of local enterprise centres for training (8% of those receiving it) and seminars (all the participants), approximately 30% of those seeking information, applying for assistance and receiving counselling or consultancy rated the local enterprise centre assistance as 'not useful'. Although the small numbers involved affect the statistical significance of the training and seminar results, policy makers in Estonia should be concerned that a significant minority of users of core services of local enterprise centres (i.e. information and consultancy) rated the assistance they received as not useful. In the case of those applying for financial support, it is likely that the dissatisfaction they expressed with local enterprise centres may be associated with an unsuccessful application for support.

The creation of the information portal "Aktiva" is a good initiative on the part of Enterprise Estonia and a potentially useful tool for disseminating various types of information to businesses. It should contribute over time to increasing awareness and knowledge among entrepreneurs about state support programmes. This is particularly the case since the survey shows almost all Estonian SMEs (91%) now have Internet connections, although less than a third of these reported being aware of the "Aktiva" site (30% of Internet users, or 27% of all firms). Predictably, a smaller number had actually used the "Aktiva" site (31% of those knowing about it, or 9% of all firms), although about one quarter of those that had made use of it (72%) judged it to be a useful facility. Clearly, the satisfaction of existing users is an aspect that Enterprise Estonia should actively promote in order to increase awareness levels

overall and to encourage more of those knowing of the existence of the site to actually make use of it.

Administrative burdens and regulatory issues

Businesses set up during or after 2000 were asked to assess how long the initial registration and licensing procedures had taken. In a majority of cases (55%), these procedures were reported to have taken less than 1 month, with a further 31% reporting the process took between 1–2 months. In 9% of cases, respondents reported experiencing delays of more than 2 months. The most time-consuming procedure at the start-up stage was reported to be entry into the Business Register, which was mentioned by 24% of the qualifying group. The speedy and efficient registration of new businesses is a current priority for enterprise policy in the EU. In this regard, a recent study reported that the average time for completing the administration of new business start-ups in the EU was 12 days for individual enterprises (highest 35 days; lowest 1 day) and 24 days for private limited companies (from 35 days maximum to 7 days minimum) (Centre for Strategy and Evaluation Services, 2002), suggesting that although moving forward, Estonia still has some way to go to achieve average EU standards.

In order to assess the extent to which regulatory compliance was an ongoing issue for businesses once they had become established, all survey respondents were asked if legal or regulatory issues had constrained their business activity. Unlike the early stages of transition, when legal and administrative barriers are typically one of the most frequently reported constraints on SME development, only 26% of the surveyed respondents reported that some law or regulation was constraining their business activities, varying from 23% of micro-enterprises, 28% of small, and 35% of medium-sized enterprises. Although no single area of regulation dominated, apart from taxation, from a small business perspective, it is the total regulatory burden that needs to be monitored and evaluated, and not just the impact of individual regulations.

Overall, it is small and medium enterprises (i.e. 10–249 employees) that showed a higher propensity to report a regulatory burden than self-employed or micro-enterprises. This particularly applied to their greater tendency to point to problems with health and safety (associated with their larger workforce), and customs (associated with their higher propensity to export compared with smaller enterprises), but also to environmental protection and licensing.

Conclusions and implications for policy

In reviewing the state of the SME sector at the time of Estonia's entry into the EU, it is necessary to take into account both the relatively short period of time that has elapsed since Estonia was operating under the conditions of a command economy, but also the significant challenges that lie ahead, associated with the threats and opportunities facing them in the enlarged internal market. In this regard, some positive features can be identified from the survey results, but also some causes of concern, which policy makers need to pay attention to if the achievements of the last decade are to be further developed and sustained.

The descriptive profile presented in the first part of the paper indicates that the SME sector in Estonia is maturing, with a size distribution that looks increasingly similar to the typical pattern in mature market economies, with a predominance of micro-enterprises and a minority of medium-sized firms. The age distribution of enterprises emerging from the survey shows that, unlike the mid-1990s, Estonia now has an emerging number of established enterprises, albeit a smaller proportion that is normal in a mature market economy. The relatively young age profile is still a feature of the Estonian SME sector, which is relevant to an understanding of some of its problems and behavioural characteristics. The survey also emphasises the importance of recognising the heterogeneity of the SME sector, broadly defined, since as in other coun-

tries, the characteristics and needs of the self-employed and micro-enterprises often look distinctively different from those of their larger SME counterparts.

The survey provides some evidence that the SME sector in Estonia is going through a fairly difficult period. Finding markets was the most commonly reported constraint by entrepreneurs and less than half the firms surveyed had been able to increase sales in 2001–2002. While some of this may be due to short-term factors, increasing competition does help to expose underlying weaknesses in marketing, as well as underlying factors influencing competitiveness, which increasing integration into the EU market may further exacerbate. The survey confirms the importance of foreign markets to Estonian SMEs (particularly those involved in manufacturing), because of the limited size and scope of the domestic market, underlining the importance of both public policy makers and entrepreneurs taking these issues seriously. For example, it could be used to justify a state programme of subsidised consultancy and training in marketing for SME managers, targeted at businesses at different stages of marketing development.

The pattern of constraints on business development reported by entrepreneurs shows a change in emphasis from the mid-1990s when institutional constraints predominated. While many of these (e.g., taxation) remain a concern for entrepreneurs, it is now competition and market-related issues that have grown in importance, reflecting the progress that has been achieved in the process of transformation towards a market economy. However, this underlines the importance of raising marketing knowledge and skills in SMEs in order to equip them better to cope with market pressures as well as to exploit emerging, new market opportunities.

Another aspect of the change in the balance of constraints reported by entrepreneurs relates to finance, which was not perceived as such a major constraint by SME owners in 2002 as it was in the 1990s, at least as far as established SMEs are concerned. The 2002 survey results show that most firms actively

seeking bank finance received at least some of what they were looking for. The results also show that the overall pattern of distribution between sources of finance is not significantly different from that in a mature market economy, although the overall level of dependence on self-financing, including family and friends, is higher than in a country such as the UK. This particularly applies at start-up where only about 1 in 5 firms appears to be accessing external finance from formal sources. The degree of reliance on self-financing is an issue when the effect of relatively low income levels compared with more advanced EU countries is considered on the ability of new entrepreneurs to accumulate sufficient start-up capital. However, since part of the problem seems to be the low proportion of entrepreneurs actually seeking external finance, this suggests that any attempts to increase the supply and availability of different types of finance in Estonia need to be at least matched by initiatives designed to increase the level of effective demand for it, linked to a wider strategy of building the competitive capacity of Estonian SMEs.

The survey also confirms the existence of mismatches in the labour market, with a gap between the supply of workforce skills available and the types of skill required by the emerging SME sector. It emphasises the importance of prioritising the reform of the vocational training system, paying attention to the specific training needs of SMEs in particular sectors. Improvements to the vocational training system also need to incorporate a spatial component, since the survey evidence demonstrates the particular problems experienced by SMEs in smaller towns. This issue emphasises the importance of 'joining up' policies between different government departments. Improving the availability and take-up of appropriately skilled workers is a priority for enterprise policy, not least because it is a particular problem for medium-sized businesses. Medium-sized companies are a potentially important segment of the business population, affecting Estonia's ability to exploit the opportunities and respond to the threats from membership of an enlarged EU. The current penetration level of foreign

markets by medium-sized manufacturing firms, for example, illustrates this.

Although considerable progress has been made with respect to the institutionalisation of SME policy in Estonia, the low level of membership of business associations and similar organisations means that the majority of SMEs are not part of this process. The Ministry of Economic Affairs and Communications and its partners might encourage more businesses to join business associations by actively promoting their contact and communications with these organisations, particularly when tangible potential benefits for businesses emerge from such dialogue. These organisations can also act as intermediaries in terms of helping firms to access external consultants.

The survey also reveals the underdeveloped state of the market for business information, advice and consultancy in Estonia, with both demand and supply side deficiencies. Where SMEs are using external advice, this is more commonly sourced informally than formally and is typically assistance to help a business to operate and meet its statutory obligations rather than to support business development. Although a structure of business associations and a Chamber of Commerce are emerging in Estonia, very few SMEs appear to turn to these as a source of information and/or business advice. In addition, the private sector consultancy is in its infancy, as far as SMEs are concerned.

In this context, there is a priority need for public policy to contribute to addressing the existing deficiencies in this market and to help build market capacity, such as through the use of a subsidised consultancy scheme. The creation of Enterprise Estonia and Kredex are positive institutional developments, as is the attempt to upgrade the quality of the local business support centres, reported elsewhere (Smallbone, 2003), although to do this effectively requires the development of an effective monitoring system to ensure quality control. At the same time, the survey evidence suggests there is still some way to go, illustrated by the significant

minority of SMEs using local business centres as a source of information, advice and/or consultancy, who are dissatisfied. The survey also reveals a need to more actively disseminate information about those support programmes that are available, which currently have very low penetration levels, based on low levels of awareness both of the programmes themselves and of who to approach to access them.

Beyond this, the key policy priorities emerging from the survey analysis are: firstly, a need for the government to work closely with the financial institutions to improve access to finance for new business start-ups; secondly, a need to continue to improve the efficiency of registration procedures and practices for start-ups; thirdly, to develop effective regulatory impact assessment procedures for new legislation affecting businesses, as well as to monitor the total regulatory burden on established SMEs; and fourthly, to improve the dialogue and penetration of the micro-enterprise sector, which accounts for the bulk of the Estonian business sector, but which is systematically under-represented in current support programmes and initiatives and relatively disadvantaged on most indicators.

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3. SOLE TRADERS – NEGLECTED PARTNERS IN THE ESTONIAN ECONOMY

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Abstract

Sole traders are the most common legal form of entrepreneurial activity in Estonia. Their role in the Estonian economy has constantly increased, their share being especially large in agriculture, fishing, and transportation. However, both economists and legislators have so far paid relatively little attention to this form of economic activity. In some cases the requirement for equal treatment of different entrepreneurs has been neglected. The authors of this paper find that sole traders are in a somewhat worse situation than companies with respect to taxation. Their high tax burden may hinder the birth of new entrepreneurs. Interview as a method of study was chosen for the empirical research involved. The respondents explained the selection of this form of economic activity mostly by cheap and simple registration, no requirement for starting capital, and simpler accounting. Regardless of the somewhat unequal treatment, the majority of sole traders are satisfied with their choice of the form of economic activity.

Introduction

Sole traders are the most common legal form of entrepreneurial activity in Estonia. However, no investigations have been carried out about their activity, its regulation and specific problems involved. The aim of the present paper is to discuss the form of the entrepreneurial activity of sole traders, its specific features and importance in the economy, as well as its regulation and specific problems involved in this activity. The objectives of this article are:

- To analyze sole traders' role in the Estonian economy.
- To show the advantages and disadvantages of this legal form in comparison with others.
- To bring forth the peculiarities of taxation of sole traders.
- To study sole traders' background and their motives in starting their entrepreneurial activities.
- To find out sole traders' opinions about the laws, regulations and taxation concerning their activity.

The paper is largely based on Maret Kirsipuu's master's thesis compiled under Juhan Teder's supervision (Kirsipuu, 2004), but additional information that became available later has been used, too. As initial data relevant literature, articles in newspapers and journals, inquiries to the Estonian Taxation and Customs Board, the Estonian Ministry of Justice and the Estonian Health Insurance Fund were used. The interviews were conducted with sole traders from various fields of activity.

Sole trader as a legal form of entrepreneurial activity, its advantages and disadvantages

According to Article 1 of the Estonian Business Act, a sole trader is a physical person who offers on his or her behalf goods or services for payment and for whom the sale of goods and services is a permanent activity. One of the most important characteristics of

sole traders is that they produce goods or services with the aim of selling and they offer them on their own behalf. Under Article 3 (1) of the Business Act, any physical person can be a sole trader. If the person is legally qualified as incompetent, the transactions shall be performed by his or her proxy (*Äriseadustik*).

When a person is about to start business, in most cases two legal forms are considered: private limited company or sole trader. The advantages of sole traders in Estonia resemble those of analogous forms of entrepreneurship in other countries: legal registration is simpler, quicker and cheaper; there are no requirements concerning the starting capital, accounting is significantly simpler, there is no need to compile annual reports, and the money earned can be used currently for personal needs. The major disadvantage is the sole trader's full responsibility for the obligations taken in the course of activity with all his/her own private property. Sole traders do not enjoy complete income tax exemption on reinvested profits valid in Estonia. Although the rates of income and social insurance tax are equal for sole traders and companies, sole traders are in a somewhat worse position concerning taxation (we shall discuss this below). Moreover, this legal form cannot be used if a newly started firm has more than one owner.

Before starting their business, sole traders have to register themselves. Registration with the Taxation and Customs Board is an obligation of which one can be relieved only by registration with the Commercial Registry. Under Article 3(2) sole traders are registered with the Commercial Registry if they so require. They have to be registered with the Commercial Registry if they are registered with the Taxation and Customs Board as liable to taxes according to the Value Added Taxation Act (if their sales during a calendar year amount to more than 250,000 Estonian kroons) (*Äriseadustik*). The obligation to register with the Commercial Registry is tied to the opportunity to get various forms of business support. Registration with the Commercial Registry is also required in case a person wants to get involved in some licensed

activity. The Estonian Business Act includes different clauses for the regulation of the activity of different types of companies, the taxation laws do not differentiate between companies that are legal persons, but sole traders' income from entrepreneurship is taxed as the income of private persons.

Sole traders' importance in the Estonian economy

The number of sole traders has been constantly increasing. Figure 1 shows the proportion of sole traders and companies as of 1 January 2004.

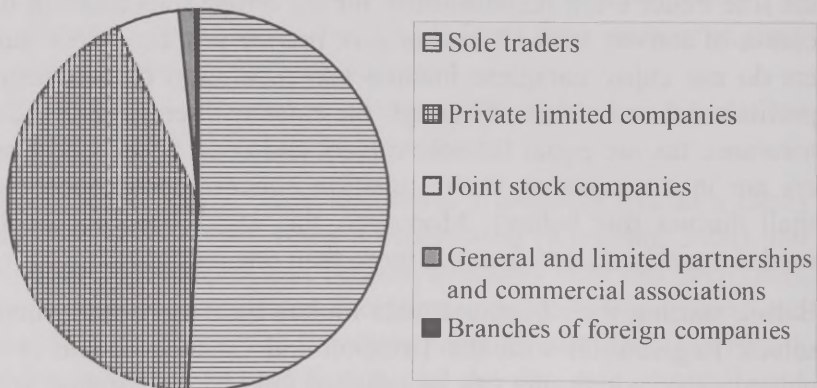


Figure 1. Companies and sole traders registered in Estonia as of 1 January 2004 (Justiitsministeeriumi registrikeskus, 2004; Riiklik Maksuamet, 2004).

The number of registered joint stock companies was 6,743; that of private limited companies 54,387; of commercial associations 855; of limited partnerships 630; of general partnerships 342; and of branches of foreign companies 365, while 65,466 physical persons had registered as sole traders, 21,464 of them with the

Commercial Registry. The proportion of sole traders among all those registered was 50.8% (Justiitsministeeriumi registrikeskus, 2004; Riiklik Maksuamet, 2004). It often happens that the figures standing for the number and percentage of different forms of entrepreneurship in the literature are misleading, which is due to the fact that those sole traders who are not registered with the Commercial Registry are ignored. Another problem is that not all registered entrepreneurs are economically active. The Statistical Office of Estonia keeps a separate account of economically active units. The relevant statistical profile of 2003 included 42,116 companies and 47,989 sole traders, of which 13,919 were registered with the Commercial Registry. The others were registered only with the Registry of Taxable Persons of the Taxation and Customs Board (Statistical Yearbook..., 2004).

Figure 2 illustrates the growth in the number of sole traders in 1995–2003 (Riiklik Maksuamet, 2004). The rapid growth in the number of sole traders is explained by several factors:

- Establishment of new businesses by entrepreneurs to make use of new business opportunities, giving simultaneous preference to an entrepreneur's lifestyle and being one's own master.
- Registration as an entrepreneur due to a change in the legislation regulating the field of activity, for example, as a result of reforms in the health care system, large numbers of general practitioners became entrepreneurs, many of them using the legal form of sole trader.
- Changed labor relations in a certain field of activity – often the relationship is that of employer–employee in the old meaning, but for certain reasons (taxes, simpler accounting for the employer) employees are interested in registering themselves as sole traders or are even forced to do so if they want to work in a particular field. As examples, we can cite here taxi drivers, hairdressers, beauticians, lecturers, builders, musicians, and actors.

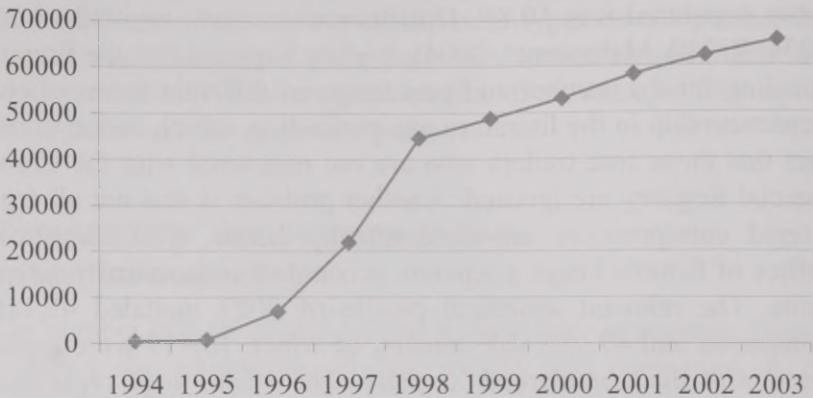


Figure 2. Number of sole traders registered with the Estonian Tax and Customs Board in 1994–2003, end of the year (Riiklik Maksuamet, 2004).

In connection with the accession to the European Union, it may be useful to register oneself as a sole trader to offer services as an entrepreneur in other EU member states, in this way avoiding the obstacles resulting from the transition period that has been established for free movement of labor. So far the impact of this factor has not been very strong yet.

Only the Commercial Registry keeps a record of the entrepreneurs by their main activity. Table 1 gives a survey of those registered with the Commercial Registry by their main economic activity as of 1 January 2004. The table shows that the proportion of sole traders is the greatest in fishery (86.9%), agriculture, hunting and forestry (80.8%), and transportation, warehousing and communications (44.9%). We have to bear in mind that over 2/3 of sole traders were registered only with the Taxation and Customs Board, and so the proportion of sole traders given in Table 1 is significantly lower than in reality.

Table 1. Economic Units in the Commercial Registry by legal form and economic activity as of 1 January 2004

Economic Activity	Sole traders	Compa-nies	Total	Sole traders, %
Agriculture, hunting and forestry	11,961	2,837	14,798	80.8
Fishing	1,341	230	1,544	86.9
Mining	5	98	103	4.9
Manufacturing	574	6,800	7,374	7.8
Electricity, gas and water supply	8	322	330	2.4
Construction	194	3,763	3,957	4.9
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	2,090	24,146	26,236	8.0
Hotels and restaurants	449	2,327	2,776	16.2
Transport, storage and communication	3,540	4,349	7,889	44.9
Financial intermediation	15	1,474	1,489	1.0
Real estate, rentals and business activities	786	13,825	14,611	5.4
Public administration and defense; compulsory social security	0	5	5	0.0
Education	77	577	654	11.8
Health and social work	205	832	1,037	19.8
Other community, social and personal service activities	246	1,737	1,983	12.4
Economic activities total	21,464	63,322	84,786	25.3

Source: Statistical Yearbook..., 2004.

Note: the data do not include sole traders registered only with the Taxation and Customs Board.

Of course, in most cases sole traders mean relatively small business. While they make up over a half of the number of units, then in the total income of businesses their share in 2002 was only 1.5%. By economic activity, the proportions of sole traders' incomes differ. In agriculture, hunting and activities serving them, sole traders gave 34.5% and in health care and social maintenance 8.6% of the business income (sales volume) of the activity. In industry, power engineering, gas and water supply, construction, trade, transportation, warehousing, and communications and finances, the business incomes of sole traders made up less than 1% of the total income of the respective activity. In 2000, the business costs of sole traders were higher than their business incomes, but in 2001 and 2002 their incomes were higher than costs (Financial Statistics..., 2004).

Numerous sole traders are part-time entrepreneurs, getting simultaneously some income as employed persons. Often their income from paid work is higher than their business income. For example, in 2001 the number of economically active sole traders was 43,000. Half of them earned business income besides paid work, and of these in turn 60% had higher income from paid work than from entrepreneurship. A relatively small proportion of sole traders – *ca* 6% – are themselves employers of other persons (Kärsna, 2003). The number of sole traders who have no paid job can be estimated on the basis of the Estonian Health Insurance Fund data. Namely, the sole traders who have no employer have to register themselves with the Health Insurance Fund. The sole traders who have a job need not do it. According to the Estonian Health Insurance Fund, then, the number of sole traders who have insured themselves was as follows (Eesti Haigekassa, 2004):

- 2000 – 15,953 (30%);
- 2001 – 20,853 (36%);
- 2002 – 25,998 (42%);
- 2003 – 21,652 (33%).

Although in the majority of cases a sole trader creates a job only for himself and even this often in addition to a paid job, there are sole traders whose spectrum of economic activities is very wide. For example, this form of entrepreneurship is used by several large farms in Estonia. So, in 2003 the turnover of one of the best-known farms, Laheetsa, was over 40 million Estonian kroons and its profits over 4 million kroons. The same year, the farm provided work to 81 persons (Männik, 2004).

Taxation of sole traders

As a taxpayer, a sole trader is responsible for:

- Keeping an account of his/her income and expenditure;
- Paying an income tax and a social insurance tax on his/her business income;
- Making advance payments of his/her income and social insurance taxes;
- The sole traders liable to VAT (turnover over 250,000 kroons a year or if the sole trader wishes to pay, also in the case of lower turnover) have to pay VAT and submit a turnover declaration;
- The sole traders that are employers have to deduct the income tax from the pay to their employees, make contributions to the mandatory pension fund and unemployment benefit fund, pay social insurance taxes and file tax returns every month.

Below we shall not discuss nuances of taxation but rather differences in the taxation of sole traders and companies.

Income tax. Beginning from the second year of activity, a sole trader is obliged to make advance payments of his/her prospective income tax obligations 3 times a year from the quarter following the deadline of filing tax returns (31 March). Besides advance payments, by 1 October of the following year an additional payment has to be made in accordance with the actual performance. Advance payments have to be made in equal amounts by the

15th day of the third month of each quarter. The amount of one advance payment is a quarter of the sum of the income tax calculated for the previous taxation period (which was 26% of the difference of incomes and expenditures; from 1 January 2005 the tax rate is 24%). Article 20 of the Taxation Act envisages that a sole trader may register his/her business as temporary or seasonal. In that case, the sole trader has no responsibility for making advance payments of income tax. Nor have advance payments to be made if the activity has been terminated or if the previous year's running was at a loss.

By comparison with companies, the difference consists in the fact that under Estonian legislation companies have to pay income tax only when dividends are paid to the owners of the company, whereas reinvested profits are not taxed. To compensate for this, sole traders have an opportunity to deposit money on a special bank account for future investment; this money is likewise exempt from income tax. However, the money has to stay on the special account. While companies have no restrictions to using the profits that have been left in the company and may, for example, invest in securities to increase their profits, sole traders cannot use their special savings accounts for this purpose.

Social insurance tax. In general, sole traders have to make advance payments (which are very small) of a social insurance tax already during the first year of activity. Analogously to income tax, an additional payment of social insurance tax has to be made by 1 October of the following year (33% of the difference between the previous year's income and expenditure).

The difference from companies is that the owners of the latter may get income from their activity both in the form of wages, on which both income and social insurance tax are levied, and as dividends (liable only to income tax), but a sole trader's income from his/her business is treated as equal to wages, and therefore both income and social insurance tax have to be paid on it. This means that the fact that an entrepreneur could earn some profit on

the investments made is neglected. True enough, there is the exception that a sole trader has to pay a yearly social insurance tax on the sum amounting to 15 times the minimum wage of the taxation months, while the income over and above this sum is liable only to income tax. This means that when incomes increase, the tax burden of a sole trader will decrease (Figure 3). Yet this opportunity is enjoyed by a very small number of sole traders. The maximum amount of social insurance tax in 2005 is $12 \times 15 \times 2690 \times 0.33 = 159,786$ kroons.

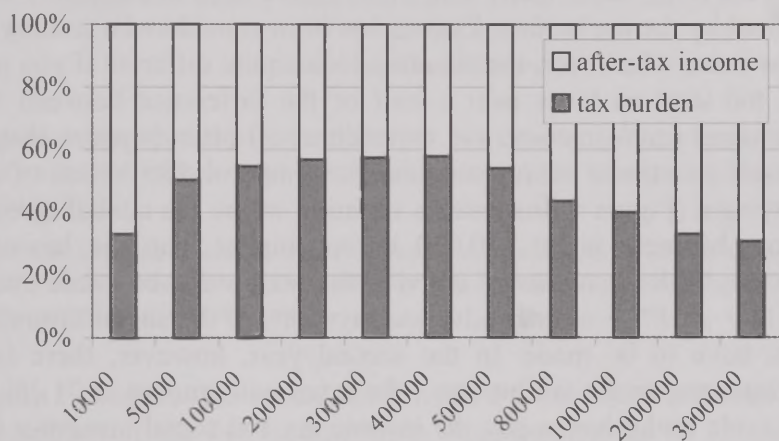


Figure 3. Sole traders' tax burden depending on taxable income (according to the taxation legislation valid in 2005).

Note: The taxable income is in Estonian kroons. The relatively lower burden in case of lower incomes is due to the tax-free minimum of physical persons valid in Estonia.

Value added tax and taxes paid as an employer. Regarding these taxes, there are no substantial differences between sole traders and companies.

Evaluation of the taxation of sole traders involves contradictions. Tax collectors are amazed by sole traders who, according to their

tax returns, have been operating at a loss for several years. This raises questions about the source of livelihood and the reasons for pursuing an activity that has not paid off for years. Obviously, often part of the income is simply not shown in the tax return (such a possibility differs greatly by economic activities) and expenditure is falsified to be greater than in actual fact. Various expenses of sole traders are only partly connected with business, which can cause arguments (for example, costs involved in using one's private car, flat or house, means of communication, etc.).

On the other hand, many sole traders have been unpleasantly surprised by the tax burden. Estonia has been considered a country of low taxes – however, the situation looks quite different if you pay to the state as taxes over a half of the difference between the previous year's income and expenditure. It often happens that at first a sole trader cannot consider the temporal distribution of tax payment (Figure 4 illustrates a situation where the annual income from business is by 150,000 kroons higher than the business costs). In the first year of activity, the tax burden of a sole trader is low – 1.8% – as only advance payments of the social insurance tax have to be made. In the second year, however, there is a drastic rise in the tax burden – the taxes will amount to 71.1% as the sole trader has to pay the income tax and social insurance tax for the previous year and make additional advance payments for the current year. Due to the high tax burden, the second year of activity is the toughest for sole traders. Later the tax burden will stabilize, being 57.9% (this figure is valid if the annual income is 150,000 kroons higher than the costs).

In conclusion, we can say that with regard to income tax and social insurance tax the situation of sole traders is worse than that of companies. This may make sole traders consider transition to other legal forms of entrepreneurship.

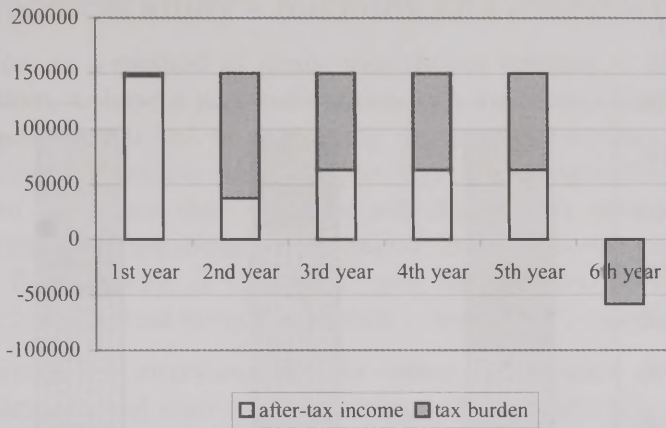


Figure 4. Tax burden of sole traders by years and at termination of activity after the fifth year (in kroons, according to the taxation legislation valid in 2005).

Note: The situation where the annual income from business is by 150,000 kroons higher than the business costs and after the fifth year the activity as an entrepreneur is terminated is considered.

Figure 5 compares the annual tax burden of a sole trader with that of a company if the net income from business activity is 150,000 kroons, the entrepreneurs themselves handle accounting, and the sum exempt from income tax is 20,400 kroons a year. In such a case, a private limited company that does not pay wages but distributes income in the form of dividends pays 24% (income tax rate in 2005) as taxes (after-tax income is 114,000 kroons; 24% income tax makes up 36,000 kroons). In a private limited company where income is paid as salary to the members of management, the tax burden will be 40.6% (after-tax income 89,166 kroons; 33% social insurance tax 37,079 kroons; total unemployment insurance contribution of 1.5% for employer and employee together 1,685 kroons, and 24% income tax 22,074 kroons). The tax burden of the sole trader is 53.7% (after-tax income 69,396 kroons;

33% social insurance tax 49,500 kroons; 24% income tax 31,104 kroons).

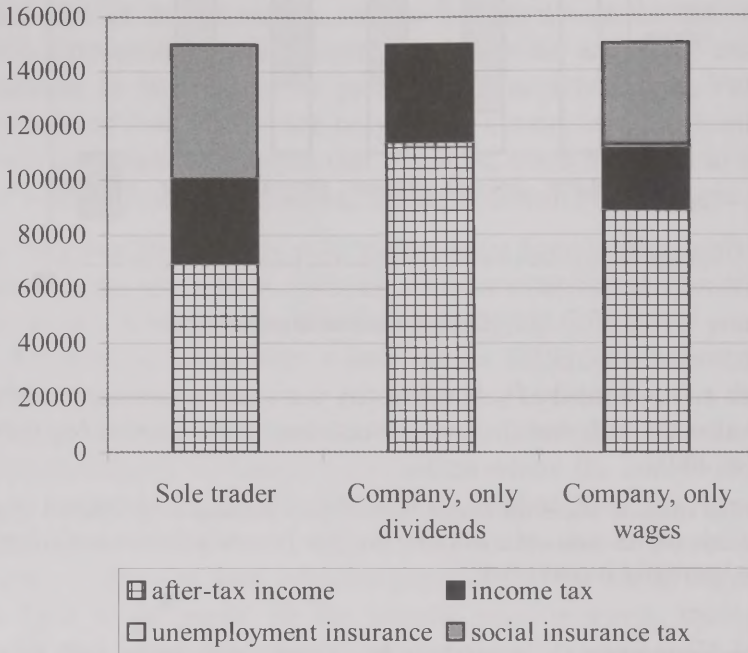


Figure 5. Difference between the tax burdens of a sole trader and a private limited company in the case of 150,000 kroons annual net income from business (according to the taxation legislation valid in 2005).

Figure 5 depicts extreme situations for a private limited company, as obviously it is often useful for an entrepreneur to take part of the income out as wages (to have a monthly income, have health insurance, and increase the future pension) and part as dividends to reduce his/her social insurance tax. Whether the gain is worth giving up the above-mentioned advantages of the sole trader as a form of economic activity, is up to each individual sole trader to decide.

An empirical study – methods and execution

Interview as a method of study was chosen because it offers an opportunity to have a personal contact with the person interviewed and to ask additional or specifying questions if necessary. The unstructured interview suited best as it gave the respondents more freedom to explain their opinions and attitudes. A questionnaire consisting of 45 questions was prepared; the interviewer could use it in a flexible way. A total of 27 sole traders from 10 counties engaged in different economic activities were interviewed.

The aim of the interviews was to collect information about the considerations and motives for selecting sole proprietorship as their form of economic activity. The questions concerned the following main topics: entrepreneur's background, field of activity as a sole trader, opinion about the regulation of the activities of sole traders and their taxation, the attitude of business partners and banks towards sole traders, the entrepreneur's plans for the future.

Analysis of the results of the interviews

Background and economic activities of entrepreneurs

Of the 27 sole trader interviewees 45% were men and 55% women. The largest percentage of respondents came from Tallinn – 26%, 22% were from Harjumaa, 19% from Põlva, and 33% from other counties. In all cases, the venue for the respondent's economic activity and his/her place of residence were in the same county.

The number of interviews was limited, so we can consider the following results as a first glance at the situation of sole traders in Estonia. To get more representative results, we suggest that more extensive surveys should be carried out in the future.

As to the educational level, the respondents distributed as follows: 41% had a specialized secondary education, 33% a secondary education, 22% a higher education and 4% a primary education. Two interviewees, who had started business already in 1992, had the longest record of economic activity as sole traders. Eleven persons had started as sole traders during the last three years (2001–2003); three of them had been forced to register themselves as sole traders by their employers.

Of the sole traders interviewed 41% had additionally a paid job, 4% were retired, and 55% were only sole traders. The interviewees' age at starting as a sole trader ranged from 21 to 58 years. They were active in five fields: retail and wholesale trade and repairs (15), agriculture (5), manufacturing (4), financial mediation (2) and building (1).

Activity as a sole trader

Rented rooms were used by 41% of the interviewed sole traders, 26% ran their business at home, 19% had purchased special buildings, and 14% worked at their customers' place. The average number of weekly working hours was 40; 48% had a fixed work schedule. All the interviewed sole traders had registered themselves with the Taxation and Customs Board, 30% also with the Commercial Registry. Of those registered with the Commercial Registry, 75% had registered because they were liable to VAT, and 25% because their activity required a license.

The selection of this legal form of economic activity was mostly chosen because of cheap and simple registration, no requirement for starting capital, and simpler accounting. As many as 82% of the respondents were convinced that simplicity of accounting was a serious motive. 71% of the interviewees handled their accounting themselves or with the help of family members, while 29% used the services of accounting specialists. A few respondents, primarily those liable to VAT, did their accounting every month and had an exact current overview of their income and expendi-

ture. The rest drew conclusions mainly in the course of filling out their annual income-tax returns.

Supplementary labor was used by 41% of the respondents; 46% of them had officially registered their employees. Family members helped 37% of the respondents, but none of them were officially registered as employees.

The money drawn from economic activity and personal money was in the same purse in 82% of the cases, while 9% kept the two separate and 9% tried to do so as much as possible. After starting as a sole trader, 67% had made investments, all together in the amount of 23,108 000 kroons. The largest investments had been made into the purchase and renovation of rooms, the purchase of equipment, machinery and tools, vehicles, and computer hardware and software.

All income from their economic activity was shown in the accounts submitted to the Taxation and Customs Board by 41% of the respondents, while some of the income was not shown by 59%. It is part of the work for which the customers pay in cash and do not need an invoice that is not shown. Several sole traders mentioned that the proportion of such work is continuously falling.

Expenditure not connected with their economic activity had not been shown as expenditure of economic activity by 30% of the interviewees. Some of the explanations given for that were: "No need, the profit is small", "After the thorough checking after the first year I even don't think of such a possibility any more", "I don't want to risk and pay fines later".

The expenditure not directly connected with their economic activity had been reported as expenditure on economic activity by 70% of the respondents; for example "Everything that might pass", "Some of the expenses of myself and the family", "Redecoration of the flat"; in a few cases also the expenditure of friends and acquaintances had been shown (6% of the respondents).

Evaluation of the regulation and taxation of the economic activity of sole traders

The fact that a sole trader is responsible with all his/her property was not seen as a significant risk by 78% of the respondents. The accompanying absence of unemployment insurance scheme and no possibility to join the mandatory pension fund (the “second pillar”) were considered unimportant by 44%; 11% had a voluntary pension insurance scheme, while the rest had a paid job and hence were entitled to both insurance schemes. Thus, sole traders do not regard the absence of unemployment insurance as a real problem. (Note: later amendments to the relevant legislation have made it possible to join the second pillar of pension insurance.)

As many as 48% of the respondents had not heard of the opportunity to use a special account to reduce taxes, others knew about it and were of the opinion that the special account gives an opportunity to reduce taxes that is as good as the exemption of companies from income tax. However, only 2 persons interviewed actually used a special account.

As to the presently valid taxation system, 41% of the respondents were satisfied, 7% were more or less satisfied, and 52% were not satisfied. The majority of the respondents were of the opinion that the laws hinder entrepreneurship. Comments like “The taxation board and the government are insatiable” and “It cannot get any worse” could be heard. However, positive remarks were also made, for example “After all, it’s our own government” and “Probably it must be as it is”. 45% found that the tax burden of sole traders was heavier than that of other entrepreneurs; 22% thought that there was no difference in taxation, and 33% could not answer because they had not been interested in the taxation of other forms of economic activity. Differences in taxation were seen with regard to the income and the social insurance tax.

Reputation of sole traders and their satisfaction with the legal form chosen for their business activity

We studied separately whether sole traders had experienced a different attitude to them due to the form of their economic activity as compared with owner-managers of companies. 67% of the respondents said that the attitude of customers seemed to be good; 11% had experienced a derogatory attitude in the beginning, while the rest found that customers were prejudiced towards them and trusted them less than companies.

Their business partners had shown a derogatory attitude in the opinion of 22% of the respondents (less trust or fear that they cannot fulfil their obligations or that they are swindlers).

Part of the respondents also complained about the attitude of banks towards sole traders. One respondent said that it was incomprehensible why banks discriminated against sole traders for "a sole trader should be considered a more reliable customer for a bank than a company, because the former is responsible with all his/her property". Of those interviewed, 15 had asked for a bank loan and 5 had got it. The comments on the refusal by the bank to give credit were: "The turnover of the business is small", "A sole trader does not have any fixed monthly income", "They did not want to discuss the matter any more when they learned that I was active only as a sole trader". However, the sole traders who had got a loan had a favorable attitude towards banks.

Although sole traders sometimes feel they are discriminated against, they are, in general, satisfied with their selection of the form of economic activity. If they were to start again, 81% would choose the same form of activity. The farmers found that sole trader as a form of economic activity is the only appropriate form for farms. Most sole traders found that the attitude of customers, business partners and suppliers towards them was positive. The general opinion was that with time the attitude towards sole traders had improved mainly due to two factors: first, sole traders

have earned trust and secondly, sole trader as a form of economic activity has spread.

Although for different reasons a few of the interviewed sole traders had pondered terminating their business activity, the majority were considering expansion, diversification, or at least continuation in the same volume. As many as 41% of those interviewed were convinced that their children would continue the activity when they themselves had to quit.

Conclusions

The number of sole traders has been increasing in Estonia from year to year. Although the majority of businesses are small, this form of economic activity should not be underrated. Among other things, business activity as a sole trader has often been the first opportunity to get business experience and in the case of success and expansion of activity it has become reasonable to establish a company.

Both economists and legislators have so far paid relatively little attention to this legal form of economic activity. In some cases the requirement to treat different legal forms as equals has been neglected. The authors of this paper find that sole traders are in a somewhat worse situation than companies with respect to the income tax and the social insurance tax. However, this problem is not widely understood. The high tax burden may hinder the birth of new entrepreneurs and the expansion of the existing businesses. At first, sole traders had no possibility to join the second pillar of the pension scheme and even though the problem has been solved by today, the negligence shows that the legislators do not care about sole traders. The situation was analogous when companies were relieved from paying income tax on reinvested profit and sole traders were given an opportunity to use a special account for the same purpose – the latter was done with a time lag, which again testifies that at first the legislator simply did not think about

sole traders or did not consider it important to create equal opportunities for them with companies. Today there is no unemployment insurance scheme for sole traders in Estonia (for example, in Finland such a scheme exists).

Regardless of the somewhat unequal treatment, the majority of sole traders are satisfied with their choice of the legal form of economic activity and 81% of respondents would choose the same form of activity if they were to start again. Farmers find this form of activity to be the most suitable one for them. Two main factors in selecting this form of activity were simple cash-based accounting and no legally specified need for initial capital.

Sole trader as a legal form of entrepreneurship is and will remain the most widely used form in Estonia. However, in the course of interviews we found out, surprisingly, that many entrepreneurs were unaware of the differences between the forms of economic activity, and sole traders did not know about the possibility to use a special account in order to avoid taxation.

The present investigation surveyed the role of sole traders in the Estonian economy, the peculiarities of the regulation and taxation of their activity, and the opinions about their activity of the sole traders involved in an empirical study. Hopefully, our results will induce legislators to pay more attention to sole traders and scientists to carry out in-depth investigations.

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4. GLOBAL ENTREPRENEURIAL MANAGEMENT: LEVERAGE OF INNOVATION, KNOWLEDGE AND COMPETENCE

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Abstract

The paper makes an attempt to elaborate the framework for a global entrepreneurial management model of leveraging innovation and knowledge in two aspects. First, the power of the mechanism of leverage. What is the potential of organizational leverage? Has a corporation that uses an entrepreneurial leveraging organizational structure, at least theoretically, an advantage over an organization using this mechanism to a lesser degree? Second, identifying entrepreneurial organizational structures in Estonia. Who owns and enjoys the advantages of a knowledge-based economy? The findings demonstrate that global corporations' ability to apply leverage provides them with a competitive advantage compared to less global and local companies.

Introduction

One of main aspects of entrepreneurship is the way of management that adds growing value to companies irrespective of their size, scope or age. Entrepreneurial management does not mean only starting a new venture. Entrepreneurs-managers can be defined as persons who "pursue opportunities beyond the tangible

resources currently controlled by their organizations". (Johnson, 2005). Entrepreneurial management permeates all the levels of an organization as well as all the structures of a company. That means that an enterprise relies on company culture, knowledge and competence. But entrepreneurial management itself does not warrant strategic success in any environment. For instance, the research of American electrical distributors demonstrated that conservative as well as entrepreneurial companies having the best strategy-structure match could have equal performance (Jennings and Hindle, 2004).

An association of the emerging market and the enterprising orientation of new entrepreneurs to the emerging market is characterized with the following terms: risk taking, pro-activeness, innovativeness, aggressive competitiveness, autonomy, uncertainty, hostility and dynamism perception (Alexandrea, 2004).

What should be the role of entrepreneurial management in the innovative "new" knowledge-based economy, which Europe and Estonia have declared to be their future direction (Knowledge-based ..., 2002; Rodrigues, 2003)? Is the hint to "opportunities beyond the tangible assets" (Johnson, 2005) pointing to the special importance of entrepreneurial management in knowledge business? Several discussions have been held on knowledge-based economy, innovative production, R&D and technological innovation (Rodrigues, 2003; Tiits, 2003). Less talk has been about the question: what are the social and organizational mechanisms that determine the success of modern knowledge-based economy? Estonia with its population of 1.4 million and a tiny market has never been considered remarkable as a global "player". But it does not mean that it can ignore the need to learn about its opportunities as a small country. Understanding the success factors should be the first step towards the strategy. This is essential both on the level of companies and the government in order to plan measures for increasing competitive capacity. It should be the question of national innovation policy as well as R&D budget

strategy in the business sector. Finding one's "own way" is complicated, as "big economies" have their organizational alternatives which "small" ones have not or lack to a great extent. One of such types of organizational alternatives is leverage.

Owing to leverage, management can achieve more by using different organizational structures rather than simply using only the resources of the company. In the conditions of a new economy, technological achievements have become reachable for most companies, and as a result information-communication technology (ICT) is not a strong enough competitive advantage. The success factors based on organizational knowledge and competence are more difficult to replicate by competitors than mere exploitation of ICT. The competence and knowledge of the organization acquire more power in the organizational structures using the mechanism of leverage. Leverage is defined as "the extent to which profits can be increased when revenues and capacity utilization rise" (Handbook ..., 1999). Often the concept of leverage is linked to the idea of stretching financial as well as non-financial resources (Hamel and Prahalad, 1993).

Leveraging intangible resources on the people level is the effect reachable as the result of multiple duplicating of the working process, which creates higher skills and performance as described by a learning curve, but it also means creation and development of such skills. On the company level, that means extending the skills and performance over all the parts of the organization, reaching every person engaged in the process.

Knowledge sharing, transferring and combining are considered leveraging factors, a more complete list of which is available in several publications (Hamel and Prahalad, 1993; Lengnick-Hall and Lengnick-Hall, 2002). Leverage mechanisms can be noticed in many fields, including competence, technology, know-how, innovation, and explicit and tacit knowledge (Goldstein, 1998; Gupta and Govindarajan, 2001). Organizational learning and

knowledge are the most generalizing and joining concepts of the field (Bartlett and Ghoshal, 2002).

Bartlett and Ghoshal mention coordination as a factor influencing leverage. They “describe the process and mechanisms of coordination through which transnational managers can retain control” of these complex global organizations (*Ibid.*). The main management tools used for coordination are centralization, formalization and socialization (*Ibid.*). The potential to leverage competencies is very high in global firm structures built upon the principles of entrepreneurial corporation (Ghoshal and Bartlett, 1999), whose structure is built up on the entrepreneurial function of their subsidiaries and the relevant entrepreneurial management model. This model includes the mentoring system as a support to the managers-entrepreneurs of corporation subsidiaries (*Ibid.*). Is such management in congruence with the concept of entrepreneur reaching results “beyond the tangible resources” (Johnson, 2005) controlled by their organizations as defined above? In the context of entrepreneurship, it provokes a discussion:

- About the scale of added value of the entrepreneurial management model leveraging competence and knowledge;
- About the scale of realization of the entrepreneurial management model enabling leverage on the global market.

This can be a factor of competition for American versus European corporations, but not only for them. Especially interesting is the representation of the model in companies of a transition economy such as Estonia. Furthermore, it would be a question about the competitiveness of a small transitional national economy on the global arena.

The article makes an attempt to elaborate a framework for an entrepreneurial management model on leveraging knowledge and competencies in two aspects:

- First, the power of an entrepreneurial management model to leverage. What is the potential of organizational leverage? Has an organization using a leveraging organization struc-

ture, at least theoretically, an advantage over the organization possessing this mechanism to a lesser degree?

- Second, identifying leveraging organizational structures in Estonia. Who owns and enjoys the advantages of a knowledge-based economy?

An entrepreneurial management model for leverage of knowledge and competence

Information, knowledge and competence are concepts related to a resource-based view of the firm. The connections between these concepts and the hierarchy are explained by means of a so-called competence ladder (Kubr, 2002) in the next succession from a lower to a higher level: symbols – data – information – knowledge (know what) – know-how – actions – competence – competitiveness. Competence, which is on the higher level in the meaning hierarchy than knowledge, is itself the subject of management of knowledge, i.e. *knowledge management* (KM), though positioned lower. This creates the need to use both terms in this paper where relevant.

Leverage of knowledge is a process inside the organization, explained by using the SECI-model (Nonaka *et al.*, 2002), in (global) corporations by using the entrepreneurial management model (Ghoshal and Bartlett, 1999).

Leveraging in corporation means creation of competency overlapping by transferring competencies and exploiting the overlapped competencies in subsidiaries. The tasks of coordination (functions) in global corporations using the entrepreneurial management model from the strategic KM viewpoint (Mets, 2003) are:

1. Optimizing efficiency to leverage the existing resources (competencies).
2. Identifying the right resource of a subsidiary to leverage over the corporation.

3. Creation of the infrastructure (management model, ICT, etc.) for leveraging.
4. Renewal of (core) competencies.

Knowledge leverage is the process taking place in “flat” corporate structures where “entrepreneurial companies” are networking via coaching/mentoring; and information and knowledge systems are reachable by and in the service of all members of the network (Ghoshal and Bartlett, 1999). A critical question in KM on the company level is sharing and transformation of knowledge between or among people, groups and divisions. To overcome the inertia and stagnation of aged organizations, the majority of large companies had adopted a multidivisional structure by the mid-1980s (*Ibid.*). Many of these structures of global firms were built upon the principles of entrepreneurial corporation whose management model includes three core processes (*Ibid.*):

- Entrepreneurial process – opportunity-seeking, externally-focused to create new businesses;
- Integration – allows to link and leverage corporate knowledge/competencies;
- Renewal process – maintaining capacity to meet challenges, rationalization and revitalization, developing an enduring institution.

Developments of the last 10–15 years have led the corporations to different combinations of coordination mechanisms of core processes. The key attributes appearing common to the companies of this new management model (Ghoshal and Bartlett, 1999) are found below:

- Support to entrepreneurship of subsidiaries;
- Relatively small size of the company (subsidiary), on average 200 employees per company;
- Open-minded communication and free reach of innovative technological and management competence inside the corporate network;

- Stimulating teamwork and facilitation of the process of shared learning;
- Continuous operational improvement of processes;
- Scorecard for (not only financial) comparison of single enterprises between each other within the corporation;
- Leveraging knowledge and competencies, including innovation, from an enterprise to all the other branches of the corporation and vice versa;
- System for coaching and mentoring subsidiaries' leaders-entrepreneurs.

The managers who are able to build up corporate organizations using the described management model are considered "to be the winners of tomorrow" (Ghoshal and Bartlett, 1999).

The characteristics of the entrepreneurial management model are more inherent in transnational corporations in the typology of global companies by Bartlett and Ghoshal (2002), where:

- Assets are dispersed, interdependent and specialized;
- Role of overseas subsidiaries is with differentiated contribution by national units to integrated worldwide operations;
- Knowledge is developed jointly and shared worldwide.

Leverage effects are one of the most essential outputs of industrial, scientific, technology, product and knowledge clusters. Knowledge transfer processes in clusters are explained in many cases by means of the same SECI-model as in case of internal processes of organizations (Formica, 2003). Cluster infrastructure is one of the best actuators of high-tech entrepreneurship, for example, Silicon Valley, Cedars Sinai medical centre, etc. in California, where one can meet many similar cluster structures. The attributes describing clusters, but also the infrastructure's preconditions of clusters are (Formica, 2003; Neuman, 2002):

- Real estate development and service infrastructure;
- Spontaneous, voluntary co-existence, knowledge-commune, foremost connection between individuals;

- The model of auto-catalytic network;
- Reciprocal connections between companies;
- High concentration of financial (seed and risk) and intellectual capital (universities, research centers, spin-offs etc. – high-tech campus);
- (Intangible) human and structural capital.

Toomas Neuman describes the establishment of biomedical science centers into joint infrastructures with large medical centers in the United States as the process caused by competition between medical centers for the newest methods of therapy. The process is based on mutual interest, as science centers are looking for best experimental and implementation conditions (Neuman, 2002).

Mathematical model of leverage in entrepreneurial corporations

Herein an attempt will be made to describe leveraging in a corporate structure with N divisions. The main prerequisites for mathematical modeling are partly related to an entrepreneurial management model of an entrepreneurial corporation, which is partly specific to the current mathematical model:

- Divisions of a corporation dealt in one group are focused on the same knowledge-concentrated field;
- The effective system for supporting knowledge creation, spreading and implementing knowledge is functioning inside the corporation;
- Innovation is created in one of the subsidiaries of the functioning network of a corporation as a project (earlier economic results and expenses are not taken into account);
- Subsidiaries of a global corporation are approximately equal in size (the presumption makes it easier to describe the model, but does not change the nature of the leverage mechanism);

- Coordination costs of knowledge on the level of one subsidiary form a smaller fraction of the total costs of investment into innovation;
- Coordination costs of the knowledge inside the corporation are proportional to the number of subsidiaries of the corporation.

Additional profit created by the implication of the innovative knowledge/technology project inside one of the subsidiaries or in an independent company:

$$K_1 = T_1 - I_{PV} - I_K - I_{R\&D}, \quad (1)$$

where:

T_1 – total revenue from the project implication in one enterprise;

I_{PV} – investment in fixed assets;

I_K – investment in leveraging or project coordination expenses in one subsidiary (division);

$I_{R\&D}$ – investment in research and development (creation of new knowledge);

$I_1 = I_{PV} + I_K + I_{R\&D}$ – total investment of the project implemented in one subsidiary (division/company).

At the implication of the project on the corporate level the investment for the creation of innovation has been made in one division. Profit K_N from implication of the same project in all N subsidiaries of corporation:

$$K_N = N(T_1 - I_{PV} - I_K) - I_{R\&D}, \quad (2)$$

in which:

N – number of subsidiaries in the corporation;

$I_N = N(I_{PV} + I_K) + I_{R\&D}$ – total investment of the project on the corporate level.

The brackets of the expression (2) can be calculated from the expression (1) in the following way:

$$K_1 + I_{R\&D} = T_1 - I_{PV} - I_K. \quad (3)$$

After replacement of the expression in brackets, equation (2) obtains the following form:

$$K_N = N(K_1 + I_{R\&D}) - I_{R\&D}. \quad (4)$$

Under the circumstances that the project investment profitability in one company and in N companies can be expressed via investment by one company and by the corporation as the whole, equation (4) obtains the following form:

$$ROI_N = \frac{N[ROI_1(I_{PV} + I_K + I_{R\&D}) + I_{R\&D}] - I_{R\&D}}{N(I_{PV} + I_K) + I_{R\&D}}, \quad (5)$$

in which:

ROI_N – return on investment for the project applied in N subsidiaries of the corporation;

ROI_1 – return on investment for the project applied only in one company.

The profitability of a new investment project according to formula (5) is modeled at different conditions. The joint precondition for all variants is the assertion that any project on the level of one enterprise (subsidiary) is successful at $ROI_1 = 15\%$ (Table 1, Figure 1).

From Table 1 one can conclude that the influence of the effect of leverage is essential at knowledge-concentrated investments, where the costs of fixed (tangible) assets and coordination expenses are significantly lower than the R&D-expenses.

The leverage coefficient V for different numbers of companies 1, 2, 3, ..., N should be calculated in the following way:

$$V_{1,\dots,N} = ROI_{1,\dots,N} / ROI_1. \quad (6)$$

Table 1. ROI and leverage coefficient V depending on the type of investment project and the number N of subsidiaries

Investment component		Type of investment structure by volume of assets							
		Tangible, %		Fixed&Knowl., %		Knowledge, %		Equal factors, %	
Tangible assets		85		45		10		33.3	
Coordination		10		10		10		33.3	
Knowledge, R&D		5		45		80		33.3	
		Return on investment ROI and leverage coefficient V							
		ROI, %		V, X		ROI, %		V, X	
Number of subsidiaries, N	1	15.0	1.00	15.0	1.0	15	1.0	15.0	1.0
	2	17.9	1.20	48.4	3.2	92	6.1	38.0	2.5
	3	19.0	1.26	64.3	4.3	146	9.8	47.9	3.2
	4	19.5	1.30	73.6	4.9	188	12.5	53.3	3.6
	5	19.8	1.32	79.7	5.3	219	14.6	56.8	3.8
	6	20.0	1.33	84.0	5.6	245	16.3	59.2	3.9
	7	20.1	1.34	87.2	5.8	266	17.7	61.0	4.1
	8	20.3	1.35	89.7	6.0	283	18.9	62.4	4.2
	9	20.3	1.36	91.7	6.1	298	19.9	63.4	4.2
	10	20.4	1.36	93.3	6.2	311	20.7	64.3	4.3
	11	20.5	1.37	94.6	6.3	322	21.4	65.0	4.3
	12	20.5	1.37	95.7	6.4	331	22.1	65.6	4.4
	13	20.6	1.37	96.7	6.4	340	22.6	66.1	4.4
	14	20.6	1.37	97.5	6.5	347	23.1	66.6	4.4
	15	20.6	1.38	98.3	6.6	354	23.6	66.9	4.5

It can be mentioned that the values of ROI and the leverage coefficient V are dependent upon the structure of investments, mainly on the knowledge-concentration of investments. The coefficient V can achieve the values above the number of subsidiaries N of the corporation.

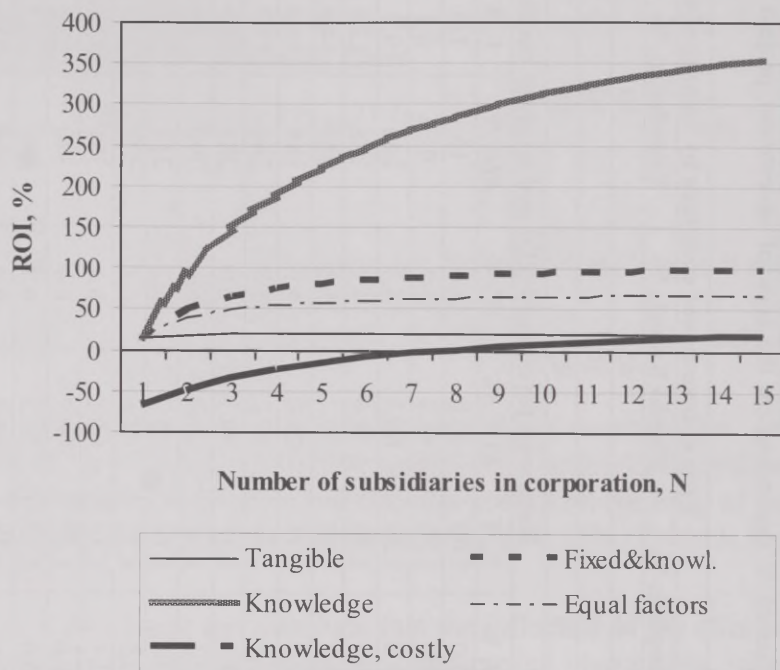


Figure 1. The profitability ROI of different types of investment depending on the number of subsidiaries in corporation N .

To illustrate the effect (Figure 1) of the leverage mechanism, the variant of knowledge investment has been selected, which on the level of one single enterprise is obviously unprofitable: $ROI_1 = -70\%$. If multiplied within the corporation, such a project demonstrates good potential $ROI_N = 15\%$. One can see that the

leverage mechanism will enable a global corporation to introduce knowledge-based projects, which at first glance seem to have a limited perspective, thus extending the circle of profitable projects.

Trying to express the leverage coefficient from equation (5), it is converted into the form:

$$ROI_N = \frac{ROI_1(I_{PV} + I_K + I_{R\&D}) + I_{R\&D} - \frac{I_{R\&D}}{N}}{I_{PV} + I_K + \frac{I_{R\&D}}{N}}. \quad (7)$$

The expression can be simplified, starting from different types of innovation.

- 1) Investment mainly into fixed assets or investment into “hardware”, i.e., $I_{PV} \gg I_{R\&D}$, therefore from (7)

$$ROI_N \approx ROI_1 \frac{I_{PV} + I_K}{I_{PV} + I_K} \approx ROI_1. \quad (8)$$

- 2) At knowledge-based innovation, investment into know-how significantly exceeds fixed (tangible) forms of investment, i.e. $I_{PV} \ll I_{R\&D}$, then (5) obtains the form:

$$ROI_N \approx \frac{N \times ROI_1(I_K + I_{R\&D}) + N \times I_{R\&D} - I_{R\&D}}{N \times I_K + I_{R\&D}}. \quad (9)$$

- a) If $I_K \gg I_{R\&D}$, then the result is analogous to investment in fixed assets (see variant 1).
- b) If $I_K \approx I_{R\&D}$, the result is analogous to variant “45:45” (Fixed & Knowl., Table 1, Figure 1) of investment in knowledge and fixed assets.
- c) If $0 \ll I_K \ll I_{R\&D}$ and $N \gg 1$, then (9) can be described in the following form:

$$ROI_N \approx N \cdot ROI_1 \frac{I_{R\&D}}{I_K}. \quad (10)$$

From (10) we receive the leverage coefficient

$$V_N \approx N \cdot \frac{I_{R\&D}}{I_K}. \quad (11)$$

The simplified formula (8) shows that in case of investment mainly in fixed (tangible) assets, the profitability on the corporate level, compared to a single local company, does not increase significantly. The increase in profit in this case is related to the global scale of business (simple economies of scale – a low leverage effect).

The expression (10) points to the aspect that investment in knowledge-concentrated fields raises the corporation's investment profitability in proportion to its number of subsidiaries and the rate of knowledge and coordination investment. The leverage effect has more power at low coordination costs.

It is obvious that a corporation located on different continents has a better overview of the know-how available in the countries of its subsidiaries' location and has better access to their local competencies than its less global counterparts. A global corporation can easily obtain (buy) the necessary competencies from the most favorable places via a subsidiary. That is the way to minimize expenses on knowledge, which gives a global corporation an additional competitive advantage.

How reliable are the descriptions of the effect of leverage and the value of the leverage coefficient in the present model? I believe that the range of the total effect of the leverage mechanism in the real economy is not revealed completely in the global corporations applying the mechanism due to mutual competition. It is also thought that the possibilities of the leverage mechanism can be used effectively only to a limited extent. On the other hand, application of the mechanism has enabled global corporations to be more successful than local companies.

Drawbacks of the model, possibilities for further development

As the author failed to find an approach similar to the present model, this paper may have some weaknesses, which in the future might be subject to further analyses:

1. Coordination costs have been dealt with as proportional to the number of subsidiaries of the corporation – an *a priori* presumption with no justification.
2. The model fails to take into account the effect of competition on the leverage mechanism. In the actual economic process, the companies applying the mechanism compete both with each other and with companies not familiar with such leverage.

The possibilities to develop the mathematical model of leverage:

1. Analyze coordination. One of the tasks of the following stages in the development of the model is the analysis of coordination as a process and introduction of coordination mechanisms. A critical issue is the actual cost of coordination and its measurement in different (corporations) structures.
2. Investigate the possibilities to apply the model within an organization as well as in inter-organizational clusters, taking into account the interconnections of individuals, groups and also companies.
3. Explore the operation model of leverage mechanisms related to different types of knowledge (innovation, competence, values).
4. Consideration of the competition mechanism will certainly decrease the value of the leverage mechanism; it will also allow one to describe the mutual competition between global corporations as well as their competition with less global companies.

The present model contributes an initial explanation to the understanding of the complex leverage mechanism. But it deserves further analysis to find the opportunities of the Estonian companies in the global competition, and to plan relevant business support and innovation strategies and policies.

Management model and the structure of global corporation allowing leverage, studies in Estonian subsidiaries

As evident from the publications of the authors quoted above, one of the main success factors of international corporations as compared to local companies is their competence.

Do the above-described characteristics/components of a management model also work as success factors of the foreign companies in competition with Estonian companies?

Are the characteristics/components of the management model described by S. Ghoshal and C. A. Bartlett represented in Estonia in such a form that they can be considered as success factors of foreign companies in competition with Estonian ones?

What is the origin and share of competence in a subsidiary – the proportion in the initial stage and now?

To identify the characteristics listed above as possible success factors of Estonian subsidiaries in foreign corporations, a preliminary study was carried out in 2002, during which the managers of eleven companies in foreign ownership were interviewed.

The sample of subsidiaries of international companies was chosen by an expert method. On the whole, the companies were completely foreign-owned. Estonian partnership was identified in three companies with a maximum rate of 20%. Four parent companies of the corporations are located in North America, while the others are in Europe. In Europe such countries were represented

as close neighbors Finland and Sweden, followed by Germany, Switzerland and Austria. The geographical location of the member companies of corporations: two of them owned companies on two, four on at least four continents. All the companies with one exception had been working under foreign ownership at least for five years. Five companies had been privatized (all of them production companies), the rest had been founded by their foreign owner. In three companies the number of employees exceeded 200. The list of their spheres of business included specialized wholesaling, publishing, marketing and management consultations, textile industry, mechatronics and electronic industry, building materials, chemical and food industries. As the sample was non-random, then based on the questioned companies, one should not draw conclusions about all foreign corporations active in Estonia.

Interviews

The structured interviews were used to obtain the opinions of the managers about the knowledge and competence with which they once started within the corporation, how the competence of the firm/division had changed in the corporation and to what extent they themselves had succeeded in contributing to the relevant competence of the corporation. Management and marketing were considered to be the critical competencies in the conditions of a transition economy. A part of the company data and the responses of the managers are presented in a generalized form in Table 2. The special questions were used to identify actual proceeding of mentor-manager/entrepreneur relationships in the corporate management practice. In the course of the interviews, the managers were also questioned about the intra-concern communication, the possibilities to make use of their knowledge and competence in the concern, the procedure of management formation, and managerial, organizational and technological innovations.

Table 2. The share of subsidiaries in the corporation and the opinions of managers about their competence

Characteristics of the subsidiaries and the corporation			
Percentage in the total number of employees, %	<10	10...50	>50
Firms in interval	4	5	2
Percentage in corporate turnover, %	<10	10...50	>50
Firms in interval	7	4	
Number of the countries of corporate activities	2	3...10	>10
Firms in interval	5	3	3
Factors for leverage of competence			
Corporation competence in the firm became...	Less	Same	Grew
Number of answers	4	2	5
Percentage of corporation competence in management, %	<10	10...50	>50
Number of answers	6	3	2
Percentage of corporation competence in marketing, %	<10	10...50	>50
Number of answers	3	5	3
Competence added to corporation by firm, %	<10	10...50	>50
Number of answers	5	5	1
Mentor/coach, period in the corporation	Beginning	Permanent	Absent
Number of answers	4	3	4

Findings

1. In the corporations which operated only in two countries and in which the share of the turnover of the Estonian subsidiary was comparatively high (more than 10%), the range (complexity, coverage of different spheres) of competence ex-

change was more limited than in the global corporations. For example, technological processes and their management, management and marketing, etc. The share of competence of the Estonian party tended to grow in such companies rather quickly.

2. Native Estonian managers are involved in the elaboration of strategies and management of the concern mostly in less global concerns. This may be due to the Scandinavian management style.
3. Global corporations are strongly oriented towards the efficiency of the processes within the company and therefore they sometimes use their Estonian subsidiary as an experimental plant for new management methods (e.g., BPR). Success in Estonia encourages introduction of the same method in the country of origin and other branches of the corporation.
4. The managers of the Estonian subsidiaries consult and introduce new management systems in the European-based subsidiaries of global corporations. This may well confirm the presence of relevant competence in our training companies. For instance, the annual salary of a financial manager depends greatly on the introduction of the new operating and cost accounting management system in one of the West-European subsidiaries of the same corporation.
5. In the questioned global corporations, the core business processes are more specialized and concentrated on one business branch than in other international corporations.
6. In the global corporations, the coaching (mentoring) of managers of subsidiary companies is more systematic and complex than in other companies. There is also strong support to the development of new programs and improvement of local competence, including the use of the local R&D potential. A company manager formulated his communication with the

headquarters as follows: "The central office is at everybody's service in all matters."

7. In knowledge-based global service corporations, the direct ownership connections can be slacker than in production ones. The divisions' interest to be inside the corporation is mainly based on the knowledge and cooperation network.
8. Subsidiary of a global corporation has been more successful in competition with the companies of a corporation owned by close neighbors, doubling the market share in Estonia to about 80% and winning about 20% of the market in the other Baltic states.
9. The Estonian subsidiary is already now the bearer of core competence of the main business branch of an international corporation.
10. Even in case of presence of all other characteristics of the entrepreneurial management model, the interviews failed to detect the relationship scheme mentor- entrepreneur-manager in its fully described functionality as given in the introduction of the model above.

Conclusions

The leverage mechanism in organizational structures has different scopes and forms, including mutual interaction of individuals as well as organizations and their groups. The leveraging effect expresses itself primarily in knowledge-intensive spheres connected with innovation, new technologies and growth of competence, all regarded as a basis for a "new economy". The possibilities for application of the effect in global corporations provide the latter with a clear competitive advantage over less global and local companies. To describe the above issue, the author made an attempt to present an original model of the leverage mechanism. According to the model, the profitability of knowledge-concen-

trated investment, when invested in a global corporation structure, may exceed the profitability of a similar investment in a single company in more times than the number of companies within the global network. The model partly explains that the comparatively low levels of R&D investment can be due to the low leveraging capabilities of the mostly small companies of Estonian origin. Further development of the model may provide practical conclusions for shaping the innovation policy and formulation of the success factors and strategies of local companies in the conditions of the new economy in Estonia as a small transitional country.

The scope of the empirical findings of the current fairly limited study is too modest to allow drawing wider conclusions about applications of the leverage mechanism in corporate structures. The global corporations involved in the survey were rather small in size among the many probably internationally better-known ones. The initial conclusions about the application of the new entrepreneurial (leveraging) management model according to the present study are as follows:

1. Among the questioned companies, the characteristics of the management model allowing wide-scale leverage of knowledge and competence were most represented in the American-based global transnational corporations. These entrepreneurial corporate structures are able to use the effect of "pumping" local knowledge out from the subsidiary's host country.
2. The management and technological innovation, and concentration of relevant activities in narrower spheres are more characteristic of global transnational corporations than of local (international) corporations.
3. A global transnational entrepreneurial corporation with characteristic features of the new management model has achieved remarkable success in competition with a local (international) corporation for emerging markets.

The limited scope of the study obviously does not allow us to extend the conclusions to the application of the entrepreneurial management model in many companies. It must be admitted that not a single case of complete realization of the model could be detected. Nevertheless, even partly use of the attributes of the entrepreneurial leveraging management structure will enable enhanced efficiency of technology and knowledge-based businesses.

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5. ENTREPRENEURIAL APPROACH TO EXPLAINING THE INTERNATIONALIZATION OF ESTONIAN SMALL AND MEDIUM ENTERPRISES¹

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Abstract

Modern international business research is divided into several subfields. The emerging stream of International entrepreneurship focuses on the role of entrepreneurs in facilitating the internationalization of predominantly small and medium-sized companies (SMEs). Entrepreneurship is also one of the most important driving forces in the readjustment process of the transition economies. The entrepreneurial management of SMEs helps them to overcome many constraints, for instance, allowing Estonian companies to make successful entry into foreign markets. However, entrepreneurial culture has to be supported by the environment. Therefore not only companies but also national governments should recognize the importance of this approach. The purpose of this chapter is to discuss how the entrepreneurial approach could be used for explaining the nature of the internationalization process of Estonian SMEs.

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Introduction

It was almost fifteen years ago that Estonia started transition to a market economy. This process has been characterized by a host of important changes not only in the institutional framework, but also at the mental level. As one of the focal points of this process, entrepreneurship has had a considerable impact on the speed and irreversibility of the changes. Entrepreneurial spirit is recommendable in both the private business sector and in public positions. Though sometimes quasi-rational, an innovative entrepreneur has the determination and vision that are much needed if the transition process is to succeed. Entrepreneurship can also facilitate the international activities of the company.

The purpose of this chapter is to discuss how the entrepreneurial approach can be used for explaining the nature of the internationalization process of Estonian SMEs. Although predominantly a theoretical contribution, it will include several aspects characteristic of the Estonian business practice.

The chapter starts with a theoretical overview of the essence, determinants and inhibiting factors of entrepreneurship. Thereafter the use of the entrepreneurial approach in an internalization context is discussed. The second half of the chapter comprises a review of the determinants and barriers discussed in the theoretical sections of Estonian business. Based on this, implications for the internationalization of Estonian SMEs will be provided.

The entrepreneurial approach to business

Although this concept was first introduced in 1934 in the classic work by Joseph A. Schumpeter, who formulated many central aspects of the approach (McFarling, 2000), it has only recently started to be viewed as an internationalization concept. The philosophical idea of entrepreneurship goes back much farther in history than the last century. The difference between an entrepre-

neur and a capitalist was already discussed by Robert Turgot and Jean-Baptiste Say (Bruyat and Julien, 2000). Entrepreneurial culture has been defined as a composite of personal values, managerial skills, experiences and behaviors that characterize the entrepreneur in terms of the spirit of initiative, propensity for risk, innovative capacity, and management of a firms' relationships within the economic environment (Minguzzi and Passaro, 2000). This composite is also highly dependent on the cultural, religious, intra-firm etc. environment. The question is what kind of environment can support favorable entrepreneurial culture?

Jeffrey Covin and Dennis Slevin (1991) propose the following list of important external variables that play key roles in determining an entrepreneurial environment (Covin and Slevin, 1991). The first dimension is environmental technological sophistication. It has been shown that there exist relatively more entrepreneurial ventures in high-tech industries than in other sectors (Maidique and Hayes, 1984). Also environmental dynamism is important in determining the entrepreneurial strive, because rapid changes force firms to take more risks and be innovative in order to cope and survive. The entrepreneurial position of small firms in a dynamic environment is evidenced by their heavy reliance on external financing, their emphasis on long-term profitability, and their serious concern for maintaining an awareness of market and industry trends. They offer high-quality products backed by superior warranties and strong customer service and support. Such firms also widely use product patents and innovative operating techniques and technologies as well as stress new product development activities (Miles *et al.*, 2000).

In a very competitive or hostile environment, the rewards to entrepreneurial approach in terms of performance are greater than in a non-hostile situation (Covin and Slevin, 1991), although product innovations are supported only by non-price rivalry (Zahra, 1993a). Returns to entrepreneurship also depend on the industry life cycle

stage. Innovative and risk-taking activities mostly occur in the early stages of the life cycle (Vernon, 1966).

An interesting survey of *a priori* barriers to entrepreneurship is found in Kouriloff (2000). The entrepreneurial approach is oriented on the study of the behavioral characteristics of an entrepreneur, not of entrepreneurship as a firm's policy. Kouriloff divides the barriers into three groups: more important barriers, barriers of medium-level importance, and less important barriers. The most important impediments according to this survey are perceived to be: business risk; the need to have time for family, failure concerns and stress, financing and taxes, and awareness of regulations (Kouriloff, 2000). Economic policy and governmental attitudes fall into the category of barriers that have average importance, while business contacts, confidence and self-esteem; motivation, health and interest are of low importance (*Ibid.*). To generalize the given results, the entrepreneurial approach taken by an individual seems to depend more on the resources, including knowledge about the environment, than on direct political influence and personal motivation. The results about the latter might be somewhat biased, because motivation and perception of risk as prohibitive are usually negatively related.

The resource constraint is also believed to be the reason why smaller firms sometimes tend to be less innovative than larger ones. In addition, openness to change and the socio-cultural background are very influential (Minguzzi and Passaro, 2000). The social network tends to impose certain behavioral standards on individuals that might support adoptive attitudes while distrusting innovation and discontinuity. On the other hand, more individualistic cultures and cultures with a strong entrepreneurial tradition, like the USA, might even encourage entrepreneurial visions (Lee and Peterson, 2000; Thomas and Mueller, 2000).

Several authors have among others discussed the issue of the relationship between innovations and entrepreneurship (Covin, 1999; McDaniel, 2000). For instance, Jeffrey Covin (1999) argues

that the presence of innovation *per se* is insufficient to consider a firm entrepreneurial, and that this label should be reserved for firms that use innovation as a mechanism to either redefine or rejuvenate themselves, or their positions within markets and industries, or the competitive arenas in which they compete. Based on Schumpeter and Bruce McDaniel (2000) also considers innovation a tool for entrepreneurship rather than its main feature. According to a more general view, there are six domains, namely: innovation, networks, internationalization, organizational learning, top management teams and governance, and growth, where a firm's wealth is created through the integration of entrepreneurship and strategic management (Ireland *et al.*, 2001). It needs to be kept in mind that entrepreneurship occurs over time (Gartner and Shaver, 1994), being thus an evolutionary 'process of emergence' (Gartner and Bird, 1992), which is at the same time variable in nature.

Entrepreneurship has many forms: an existing organization enters a new line of business, an individual or individuals champion new ideas of products and processes within corporate framework, sometimes labeled "intrapreneurship", or an entire organization's outlook and actions are led by entrepreneurial philosophy (Covin, 1999). Entrepreneurship can also be characterized by intensity, formality, types, and duration (Zahra, 1993b). The conditions for intra-firm entrepreneurship were also described by Jansen and van Wees (1994).

Corporate entrepreneurship is more efficient when the management has vested interest, therefore the stockholder status of executives and even of outside directors contributes to taking an entrepreneurial approach (Zahra *et al.*, 2000a). Ownership impact on entrepreneurship has been analyzed by other authors (Kuratko *et al.*, 1997). Some authors even look for a single person called "lead entrepreneur" in the overall context of the firm (Ensley *et al.*, 2000) or investigate the role of proactive company presidents in SMEs (Becherer and Maurer, 1999). An important role in the

regeneration of competitive advantage is also played by knowledge creation and diffusion (Zahra, 1999). In 1973, Kirzner proposed a theory of entrepreneurial alertness, asserting that entrepreneurs are more sensitive to new opportunities and use information differently (Busenitz, 1996). According to Gary Knight (2000), entrepreneurial culture can lead to superior performance also through marketing and quality leadership combined with product specialization, while a firm acquires new technology, responds to globalization trends, and prepares for internationalization (Knight, 2000). The entrepreneurial approach is summarized in Figure 1.

Over the last decade, more attention has been paid to international entrepreneurship. In a recent review of the contributions to the field, the authors again called for additional attention to that aspect (Zahra *et al.*, 1999). Svante Andersson (2000) has identified three types of entrepreneurs that may be very influential in the internationalization process: a) marketing entrepreneurs who have deep-rooted convictions about the role of sales supporting activities and tend to stress the importance of push strategies (Andersson, 2000), b) technical entrepreneurs who pay major attention to technological development, using pull strategies, and c) structure entrepreneurs whose major interest lies in increasing the effectiveness of the industry that is achieved via international restructuring (*Ibid.*). In general, a strong entrepreneur can boost up the market entry process, although sometimes it may turn into a matter of "blind conviction" rather than rational market analysis.

Other writers have studied the role of entrepreneurship in supporting technological learning in foreign markets when high-tech industries internationalize. Entrepreneurship has been found to facilitate the learning processes, while also improving performance (Zahra *et al.*, 2000). Entrepreneurial orientation as a determinant of the early, sometimes even inceptional internationalization of small high-tech firms has been addressed by Jones (1999).

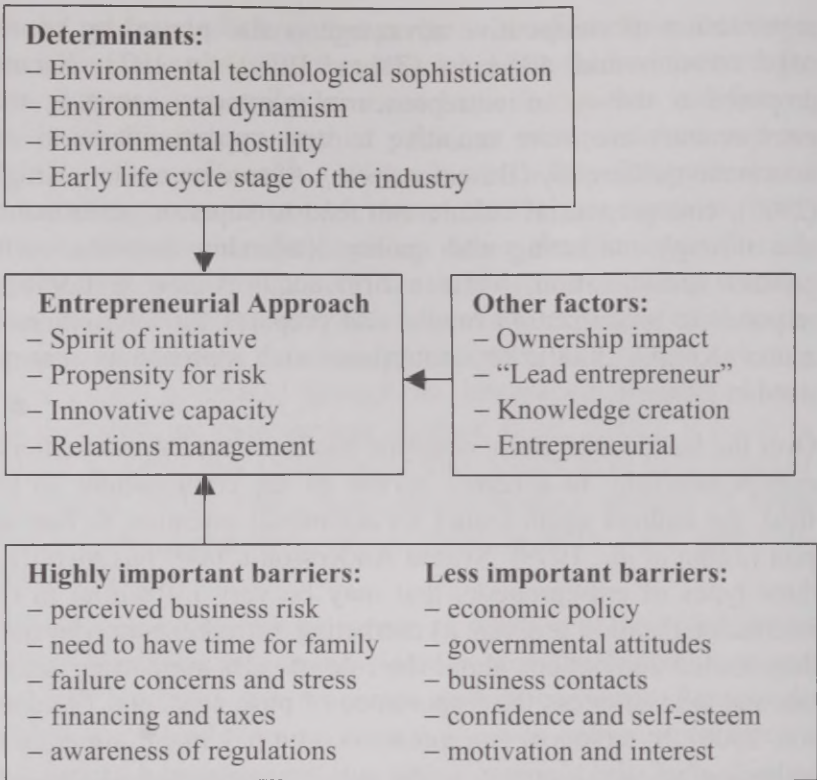


Figure 1. Formation of the Entrepreneurial Approach (Covin and Slevin, 1991; Kouriloff, 2000; Zahra *et al.*, 2000; Kuratko *et al.*, 1997; Ensley *et al.*, 2000; Busenitz, 1996).

Entrepreneurial studies also indicate a problem related to cross-functional integration needed for integrated marketing, which was mentioned earlier in our discussion, because innovativeness seems to have a moderating effect on cross-functional cooperation (Song and Xie, 2000). Thus, there may be some trade-off between entrepreneurship orientation and integrated approach to the value chain.

It has been shown that uncertainty in its home country can help a company to cope better in a foreign business environment as the hardships at home prepare it to face international risks and chal-

lenges (Dimitratos *et al.*, 2004). So, from the entrepreneurial perspective, as maintained by Gregorio (2004), country risk has certain positive sides and provides business opportunities. Hence strategies may be devised to benefit from positive volatility while containing negative impacts (Gregorio, 2004).

The intersection of international business research with entrepreneurship research was addressed by McDougall and Oviatt (2000). They argued that entrepreneurship by its very nature would sooner or later lead to seeking international growth opportunities. In taking risks, being innovative, creating value and enacting opportunities, people behave entrepreneurially and cannot avoid becoming international.

However, according to Denise Fletcher (2004), international entrepreneurship is not so much about the skills of making opportunities happen as about cognitively building a particular situation up as an opportunity. Hence this work supports the social constructionist view of entrepreneurship, suggesting that for born global companies, which are international soon after their inception, the internationalization process allows entrepreneurship, whereas for late starters, who first build resources through entrepreneurship at home, entrepreneurship enables internationalization to take place (Fletcher, 2004).

Contemporary research in more traditional companies has identified the so-called international entrepreneurship culture that relies upon international market orientation (which embraces proactiveness), propensity for learning, networking orientation and motivation. These orientations forming a particular cultural setting can holistically explain the entrepreneurial activities of internationalized firms. (Dimitratos and Plakoyiannaki, 2003)

According to Pavlos Dimitratos and Marian Jones (2004), future research in international entrepreneurship should more increasingly move towards recognizing entrepreneurship in the traditional industries and companies, not just in high-tech born global

companies, as well as towards further discussion of entrepreneurial alertness or opportunity-seeking behavior. In addition to these suggestions, Nicole Coviello and Marian Jones (2004) propose several advancements in the research methodology of international entrepreneurship that concern a dynamic viewpoint (dimension of time), more diversified sampling, and better reporting equivalence in cross-national or replication studies.

Conditions for entrepreneurship-based internationalization in Estonia

Although Lee and Peterson (2000) argue that the former Soviet countries are to be described by low orientation towards entrepreneurship, this is not uniformly the case about the entire former territory. It would be more appropriate to say that the majority of the Commonwealth of Independent States, or CIS countries, are still considerably influenced by soviet-style hierarchical structures and *nomenklatura*. The former party control has merely been supplanted by that of the new oligarchs. The business environment in these countries has often proved to be very unstable and unfavorable.

However, the above is far less characteristic of the Baltic region. This has a meaningful historic explanation. When Russia and many other countries were incorporated into the emerging Soviet block shortly after the 1917 Revolution, having enjoyed only a few decades of infant capitalism in the framework of the Empire, the Baltic countries relished a period of emerging private business from 1918 to 1940 and their final transition to state-controlled economy happened only after World War II. Although this 20-year-long period might seem unimportant, it left a considerable legacy of democratic statehood and mental readiness for the entrepreneurial approach to the business activities. In combination with the requirements of modern times, this period is often used as a reference point for certain decisions or institutional solutions.

Yet even in the Baltic countries entrepreneurship is not as widespread as in western economies. In the following, the main determinants of and barriers to entrepreneurship will be viewed within the Estonian business context.

Environmental technological sophistication

Estonia has gained a reputation as a country of rapidly developing information and communication technology. This has been achieved owing to the successful introduction of mobile communication services as well as the fast expansion of computer networks and the Internet. The modernized production facilities also rely upon computer-aided manufacturing technologies. These measures are able to offer rather sophisticated mobile or Internet-based services that have the potential for export. The latest European Innovation Scoreboard, however, indicates that Estonia is now falling behind in terms of diversified support to innovative technologies (European ..., 2004).

Although the Estonian government is taking efforts to encourage the creation of research-based spin-offs, the level of domestic innovations and support to innovative projects can still be regarded as one of the weakest links in the development of entrepreneurial initiative. This situation is described by the percentage of domestic patent and trademark applications in the sum total of applications (Table 1). The percentage of domestic patent applications has been very low, while the situation with trademarks is improving. Thus, Estonian entrepreneurs learn faster how to be marketers than how to be innovative producers. Indeed, the latter often demands more profound and specialized skills. Due to the perceived overproduction of the workers with general business and management skills, the education system is now geared towards emphasizing specialized professional skills and training larger numbers of information technology specialists. (Estonian Patent ..., 2004)

Table 1. Patents and Trademarks in the Estonian Patent Office between 1992 and the first half of 2004

Indicator	1992–1999	2000	2001	2002	2003	2004 1	Total
Number of patent applications	2,234	805	55	56	31	18	3,199
– including from domestic applicants	92	12	18	19	18	15	174
Percentage of domestic applications in all applications	4.1	1.5	32.7	33.9	58.1	83.3	5.4
Received PCT patent applications*	10	5	662	663	571	77	1,988
– including from domestic applicants	10	5	1	2	0	0	18
Percentage of domestic applications in all applications	100	100	0.2	0.3	0	0	0.9
Number of patents registered	315	84	257	358	269	115	1,398
Number of trademark applications**	29,706	2,004	1,969	1,898	2,007	1,139	38,723
– including from domestic applicants	5,576	884	910	1,017	1,058	776	10,221
Percentage of domestic applications in all applications	18.8	44.1	46.2	53.6	52.7	68.1	26.4
Number of registered trademarks	23,361	3,105	2,447	1,788	1,341	791	32,833

Source: Estonian Patent Office Statistics 1992–2004, author's calculations.

* PCT – Patent Cooperation Treaty concerning international patents.

** Only nationally registered trademarks.

In conclusion, the process in information and communication technology has supported increase in technological sophistication, but the business environment remains heavily reliant on the transfer of foreign technology, while the level of domestic innovations is low. The governmental and EU programs that support innovative entrepreneurs have remained unsatisfactory.

Environmental dynamism

The business environment of Estonia has been very dynamic. The beginning and middle of the 1990s were characterized by immediate transition from the command economy to market economy. During that period, entrepreneurship in Estonia has been supported by a relatively successful privatization process where the leading idea was to find strategic owners with a sound financial background in order to facilitate the reorganization of the business sector.

The privatization process has thus been one of the main engines for considerable flows of inward foreign direct investments. The majority of these investments has been related to technology and know-how transfer. Per capita FDI could also be viewed as an indicator of a favorable entrepreneurial environment, despite the higher risks involved by comparison to western economies.

The second half of the 1990s was considerably influenced by the Russian monetary crisis which caused Estonian companies economic and liquidity problems, and even forced several entrepreneurs to sell their companies that had been started in the early 1990s to foreign ownership.

The dynamics of the Estonian business environment in the new millennium have been driven by the process of EU accession, which has once again reinforced the inflow of foreign direct investments, while excise duties have grown.

To conclude, the high dynamics of the environment has opened up fresh opportunities for entrepreneurial initiatives that have sub-

sequently either been realized in the nearby markets or have been transferred abroad.

Environmental hostility

Environmental hostility in the transition environment can be discussed as a twofold phenomenon. The transition process has improved market structures and gradually increased competition in the main economic sectors. However, the environment, characteristic of the early stages of transition, could be deemed even more hostile than the highly competitive environment after joining the EU. Given transition environment was described by institutional weaknesses and failures. In essence this shift in the regulatory and competitive environment should reduce the role of arbitrary entrepreneurship in favor of knowledge-based entrepreneurship.

In conclusion, the transition process has changed the nature of environmental complexity rather than reduced the level of hostility itself. Estonian SMEs remain vulnerable to larger international entrants. Yet the re-shaped competitive forces encourage them to take the foreign-expansion-related risks.

Early life cycle stage of the industry

Estonia has successfully made inroads on some very competitive areas that are still in the relatively early life cycle stage. These areas include first of all information and communications technology, e-banking and to some extent biotechnology and material sciences. Information and communication technologies have already found highly commercialized application, but most biotech companies have yet to build up their market position. However, the emerging biotechnology and material sciences are inherently more globally oriented as well, thus offering new growth opportunities abroad for research-based SME startups.

Side by side with these younger areas there exist also older business areas like, for example, apparel industries which have found

new entrepreneurial challenges in steering their core activities away from less competitive production to more competitive retailing and brand building. However, some of the older industries have very large personnel, which sets some social boundaries on the implementation of very innovative solutions.

To conclude, there exists a strong potential for benefiting from the early life cycle stage of some industries, while in older industries innovative entrepreneurial solutions are needed in order to rejuvenate the competitive advantages.

Other factors

Estonian entrepreneurship is characterized by very strong links between the ownership aspects and the characteristics of lead entrepreneur. Indeed, most leading companies, some of which have by now grown out of the SME status, have been directly governed by an owner or by a team of owners. For example, Hansabank, at present the largest bank in the region, found its growth momentum in entrepreneurial initiative under a team of co-owners. In a similar fashion, the former Sylvester sawmills and wood procurement companies were started by the entrepreneurial initiative of their owners/managers. In this case, entrepreneurial innovativeness found its role in terms of courage to build new and modern production capacities. Several Estonian high-tech companies are likewise led by entrepreneurial owners. However, the shared identity of the company and owner often is the reason why these small ventures remain hidden from researchers and the general public.

In time, the organizational developments of companies, along with takeovers initiated by foreign investors, have reduced the role of entrepreneurial ownership and lead entrepreneur(s). Also in very innovative industries, like biotech, where the initial need for financing is bigger, the ownership ties are likely to weaken faster than in post-transition startups that relied upon knowledge import. Minority co-ownership will be more common. The shift from personal entrepreneurship to organizational intrapreneurship might facilitate the knowledge creation and especially the dis-

semination processes. As could be seen from Table 1, the current level of knowledge creation does not support knowledge-based global entrepreneurship.

The entrepreneurial alertness in Estonia counteracts to this trend toward the reduced role for lead entrepreneur in organizational setting. New opportunities seen in large organizations can instead intrapreneurship within the pre-existing setting sparkle into innovative startups that partner with several larger organizations. The likelihood of these developments is reinforced by relatively individualistic business culture and career movements.

Main barriers to entrepreneurship

Two types of survey data are available and will be used herein to proxy Estonian barriers to international entrepreneurship. The lack of qualified labor has become the most prominent intra-company barrier for exporters (Table 2). This aspect is closely followed by financial constraints which, however, have lost their importance to some degree. Capacity constraints have in turn gained a more focal position, while the barriers and high unit costs remain important as well. Besides the intra-company barriers, cross-border entrepreneurship is inhibited by the domestic environment, especially by the bureaucratic customs and tax policy, the weakness of the education system, insufficient export promotion, and poor information about support possibilities. Foreign barriers are perceived in the form of competitive pressures, EU-related adjustments, and quality system creation problems. (Survey of Estonian Exporters 2000; 2003)

Domestically owned outward investors are more constrained by host-country-related risks than foreign-owned investors (Table 3). The informational and financial constraints, too, pose them greater challenges than to FDI recipient investors. (Survey of Estonian Outward FDI, 2001) The barriers outlined in these studies of Estonian exporters and investors are to fairly similar to those discussed in the study of Kouriloff (2000) with a noticeable exception of the family-related social aspect.

Table 2. Factors inhibiting the export performance of Estonian firms – percentage of respondents

Intra-company barriers			Domestic barriers			Foreign market barriers		
	2003	2000		2003	2000		2003	2000
Lack of qualified labor	43	38	Bureaucratic customs and tax policy	42	56	Strong competition on foreign markets	65	63
Lack of funds and working capital	40	50	The weakness of the general and professional education systems	40	36	High requirements of “Eurostandards”	24	33
Small production capacity	29	27	Scarce governmental resources for export aid	19	46	High requirements of quality certification	28	35
High costs per product	28	34	Lack of information about supporting services offered	19	35	Scarce information about rules and regulations of foreign customs	–	33

Source: Surveys of Estonian Exporters 2000; 2003.

Table 3. The means and standard deviations of indirect and direct investors' evaluations of investment problems (on the scale 1 – unimportant... 5 – very important)

	Indirect investors	Direct investors
Host-country-specific factors (risk and investment climate)	mean 3.90 standard dev. 0.96	mean 4.27 standard dev. 0.77
Lack of personnel (knowledge, experience, international business education)	mean 3.81 standard dev. 1.15	mean 3.96 standard dev. 0.98
Lack of information	mean 3.20 standard dev. 1.10	mean 4.00 standard dev. 1.10
Lack of financial resources	mean 2.81 standard dev. 1.29	mean 3.52 standard dev. 1.24
Home-country- specific factors (regulation and administration)	mean 2.70 standard dev. 1.24	mean 3.18 standard dev. 1.18

Source: The Survey of Estonian Outward FDI, 2001.

A higher host-country risk awareness of domestic investors does not necessarily have to mean lower entrepreneurship. The fact of investment itself is a sign of willingness to cope with the uncertainties of the foreign business environment.

Implications for the internationalization of Estonian SMEs

The application of the entrepreneurial approach to the Estonian business environment leads us to draw several important conclusions. The current technological sophistication of the business environment supports entrepreneurial expansion to the nearby markets by adopting the IT and communication solutions that have been successfully implemented domestically. At the same time, even more inherently global sectors, like biotech and mate-

rial sciences need further market entry support before they can provide extensive entrepreneurial opportunities on the international scale. The inherent dynamics of transition economy enhances the risk-taking capabilities of Estonian entrepreneurs. These risk management capabilities can be innovatively used in high risk and high benefit economies. Environmental hostility that has shifted from a weak institutional framework to a more competitive domestic environment has undergone a gradual process that left knowledge-absorbing entrepreneurs with skills of coping in diversified business environments. These skills should also help facilitate cross-border risk-taking.

In the post-socialist environment, many economic sectors are in the early stages of their life cycle not only domestically, but also regionally. Inter-country differences in life cycle paths could be perceived as entrepreneurial opportunities. The ownership and lead entrepreneur factors will remain important owing to spin-off startups of large companies that often have international activities. These new ventures thus have a great potential for becoming international from their inception. There is a tendency toward an increase in knowledge-creating entrepreneurial SMEs in the science-based sectors, which should have a higher potential on the global market than the knowledge-absorbing SMEs that have dominated so far. This should introduce more technical entrepreneurs instead of mostly marketing-oriented entrepreneurs. Barriers to international entrepreneurship of Estonian SMEs are likely to be considerably reduced by EU accession, which not only renders additional financial support, but also provides better possibilities for expansion and human resource engagement.

Conclusions

Entrepreneurship has been a topic for discussion for centuries. However, its implications for the cross-border activities of firms have not yet received enough research attention. The keywords

describing entrepreneurial attitude are innovativeness, propensity for risk, and initiative. Entrepreneurial culture is highly dependent on the economic environment. Sophisticated technologies as well as a dynamic and competitive environment seem to foster entrepreneurial posture. The same could be said about individualistic culture. Although innovation and entrepreneurship are often viewed as almost the same, innovation is a means for achieving one's entrepreneurial goals. Thus, entrepreneurship has many other important characteristics and could rather be generalized as a behavioral pattern. A different kind of readiness for new situations is highlighted by the notion of entrepreneurial alertness.

International entrepreneurship has been categorized to be technical (R&D-oriented), marketing-related, or structure-based. The entrepreneurial approach has also been found to facilitate the internationalization process of high-technology firms, although cross-functional integration at the global level might even be inhibited by a predominantly entrepreneurial posture.

The level of entrepreneurship in Estonia depends both on historic aspects and on the present economic environment. The dynamism of the transition environment in the region, and the gradual development of institutional structures as well as markets have supported the entrepreneurial opportunities of Estonian SMEs both locally and in the neighboring markets.

The important policy implication from this study is that the government should offer more support to innovative business solutions and to foreign market entry, while reducing bureaucracy and adopting more transparent legislature.

Future research in the field should concentrate on the role of entrepreneurship in more traditional Estonian industries and larger companies in order to determine the impact of the specific technology and company size on possible results.

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6. INTERNATIONALIZATION OF ESTONIAN LISTED COMPANIES: THEORIES AND REALITY¹

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Abstract

The paper studies the internationalization of all listed Estonian companies, examining to what extent it has accorded with main internationalization theories. An overview is given of several theoretical approaches, including international entrepreneurship literature, the Uppsala, the innovation-related internationalization and the Finnish models and the network approach to internationalization. The paper contains 13 cases: those of Baltika, Eesti Telekom, Hansabank Group², Harju Elekter, Kalev, Klementi, Merko Ehitus, Norma, Rakvere Lihakombinaat, Saku Õlletehas, Tallinna Farmaatsiatehas, Tallinna Kaubamaja and Viisnurk, and ends with managerial and research suggestions.

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² This firm was listed until June 2005, but it was included as it had been a listed company since 1996.

Introduction

The research paths of international business and entrepreneurship³ are intersecting with increasing frequency and cross-border business activity is of growing interest to entrepreneurship researchers (McDougall and Oviatt, 2000). Internationalization processes have been widely researched over the last four decades, whereas international entrepreneurship⁴ issues became more popular only in the 1990s. In these two areas, many views about companies' increasing foreign involvement have emerged. Some of them have described internationalization as a sequential process, while others have stressed the importance of network relationships, foreign direct investments (FDI), managers' entrepreneurial behavior and several other aspects.

Despite the wide variety of concepts, there is still no holistic approach to internationalization. The need to understand the factors affecting the internationalization process is especially large in transition economies. In Estonia, foreign trade deficit is relatively high. The size of the country (a population of less than 1.4 million) means that in order to grow, enterprises have to internationalize fast. This is not easy, especially for recently established local companies, as they tend to lack resources, capabilities and contacts. For older firms, internationalization has also been relatively difficult: after the dissolution of the Soviet Union, most of them were forced to find new foreign buyers and suppliers as many former trade arrangements broke down.

³ A firm's **entrepreneurial orientation** is a combination of innovative, proactive, risk-seeking, autonomous and competitively aggressive behaviors: the active pursuit of business, product or process development opportunities within an established firm to improve organizational profitability (Birkinshaw, 1993; Lumpkin and Dess, 1996).

⁴ International entrepreneurship can be defined as "the process of creatively discovering and exploiting opportunities, lying outside a firm's domestic markets, in the pursuit of competitive advantage" (Zahra and George, 2002).

This paper aims to study the internationalization of all 13 listed Estonian companies and examine whether their internationalization process has proceeded in accordance with the main theoretical approaches. The paper begins with a literature review after which the case study methodology is introduced and the case enterprises – Baltika, Eesti Telekom, Hansabank Group, Harju Elekter, Kalev, Klementi, Merko Ehitus, Norma, Rakvere Lihakombinaat, Saku Õlletehas, Tallinna Farmaatsiatehas, Tallinna Kaubamaja and Viisnurk – are described. The paper closes with the discussion of the results and some managerial and research suggestions.

Literature review

International entrepreneurship studies are mainly concerned with strategic alliances, corporate entrepreneurship, entrepreneur characteristics, motivations, exporting and other foreign market entry modes (McDougall and Oviatt, 2000) of both new – eight-year-old or younger – and established (Zahra *et al.*, 2002), small and large enterprises⁵. Internationalization is an example of an entrepreneurial action (Schumpeter, 1934). International entrepreneurial behavior may occur at the individual, group or organizational levels (McDougall *et al.*, 2000). Gaining access to global market information, having a global vision and building up international networks is an important part of the entrepreneurial process (Fletcher, 1999). With an entrepreneurial outlook, companies can significantly increase their success in foreign markets. Internationalization, in turn, can induce and promote entrepreneurship, for example, by reducing the managers' perceptions of risks,

⁵ The initial emphasis of this research stream was on young and small firms that initiate and manage effectively internationalization ventures in their early life stages (Young *et al.*, 2003). Currently, most research is still done on this issue (Zahra and George, 2002).

encouraging innovation, and learning and providing them with necessary information (Zahra *et al.*, 2001).

In the early 1990s, interest in born globals has arisen and this subject has received considerable attention in the international entrepreneurship literature. It has been shown that although many companies are young and small, their markets are most volatile and they lack market experience (Oviatt and McDougall, 1994), they leapfrog into internationalization instead of gradually moving through the steps suggested by the stage theories (Knight and Cavusgil, 1996) examined below. These companies do not necessarily own foreign assets: this is not a requirement. Moreover, instead of establishing sales or production subsidiaries, they may arrange strategic alliances to use foreign resources such as manufacturing capacity or marketing (Oviatt *et al.*, 1994). A new term, "born-again global", has been created to refer to firms that have been well established in their domestic markets, with apparently no great motivation to internationalize, but which have suddenly become international. Mostly, this change has been caused by a critical incident: for example, a takeover by another enterprise, an acquisition of a company with international connections or the internationalization of a domestic client (Bell *et al.*, 2001).

A large body of international business research and some international entrepreneurship research have been based on the Uppsala (or U- or internationalization process) model. The authors state that companies usually enter new markets with successively greater psychic distance⁶ and their market investments develop according to an establishment chain (Johanson and Vahlne, 1990). In other words, firms pass through a number of logical steps from no regular export activities to export via independent representatives or agents, overseas sales subsidiaries and production/manufactu-

⁶ Psychic distance – a combination of factors inhibiting or disturbing the flow of information between the firm and its market: language, culture, political systems, education and industrial development levels (Johanson *et al.*, 1990).

ring units (Johanson and Wiedersheim-Paul, 1975). There are three exceptions to the model (Johanson *et al.*, 1990):

- 1) Large or resourceful enterprises can more easily internationalize;
- 2) In stable market conditions, relevant market knowledge can be obtained in other ways than through experience;
- 3) When a company has considerable experience in similar markets, it may use it in a specific country.

Innovation-related internationalization (or I-) models (their authors are also quite frequently cited in international business and international entrepreneurship literature) focus on the learning sequence connected with innovation adoption. They derive from the following stages: awareness, interest, evaluation, trial and adoption (Rogers, 1962). From the I-models, it can be concluded that firms' export development process can be broadly divided into three phases (Leonidou and Katsikeas, 1996):

- 1) The pre-engagement phase (including companies selling their goods solely on the domestic market and not being interested in exporting, those involved in the home market but seriously considering exporting, and those that used to export in the past but no longer do so);
- 2) The initial phase (enterprises export sporadically and consider various options, including increasing and decreasing their overseas involvement or withdrawal from selling abroad);
- 3) The advanced phase (firms are regular exporters with extensive overseas experience and frequently consider more committed forms of international business).

The models have also demonstrated that some forces may influence foreign-owned firms' internationalization more than that of their domestic counterparts. For example, the initial decision to start exporting could be taken in the headquarters as a result of a global marketing decision and sales might be organized through their network (Wiedersheim-Paul *et al.*, 1978).

The Finnish model (some authors classify it as a specific form of I-models) suggests that firms can speed up their internationalization by leapfrogging some stages (Chetty, 1999). It also claims that inward internationalization might precede and influence the development of outward activities and vice versa (Korhonen, 1999). For instance, many companies have their first international contacts as potential customers of foreign enterprises. Through them, they may acquire foreign market knowledge as well as reduce risk, uncertainty and the time required to establish new international operations (Karlsen *et al.*, 2003). This may afterwards result in an outward selling or investment move (Luostarinen and Welch, 1997). The Finnish model also shows that a firm does not inevitably have to move to the last step of development: the reverse of the process, or de-internationalization, may occur at any of the stages. This process may be followed again by re-internationalization (Luostarinen, 1994).

The network approach to internationalization has partly grown out of the U-model. It stresses the actual process of market entry and becoming a player in the network (Salmi, 2000). From this point of view, an enterprise's internationalization means establishing and developing business relationships in networks in other countries (Johanson and Mattson, 1988). A firm's physical assets can be mostly located domestically but it may still have an important role in an international network (Björkman and Forsgren, 2000). It can also gain access to other enterprises' knowledge without necessarily going through the same experiences (Eriksson *et al.*, 1998). Thus, a typical internationalization sequence has changed from gradual expansion ("prescribed" by the U- and I-models) to the one in leaps by joining the nets (Hertz, 1996). On the other hand, relationships cannot only drive and facilitate, but also inhibit a firm's internationalization (Ford, 1998).

Numerous authors have studied one particular form of inter-organizational networks: multinational corporations (MNCs) in which subsidiaries have multiple connections with other entities

both inside and outside the corporation's formal boundaries (Birkinshaw, 1997). It has been shown that over time subsidiaries accumulate valuable resources and capabilities through their network relationships, which leads to an increased status and thus to an extension of the scope of their activities (Birkinshaw and Hood, 1997; Hedlund, 1986). Many subsidiaries are able to develop great managerial expertise. They have a competitive market position, a high value-added, autonomy and influence on the MNC. While earlier the parent company had to integrate subsidiary competencies (Prahalad and Doz, 1987), more recently it has been recognized that the subsidiary's role in advertising its strengths (corporate entrepreneurship) may be even more important (Birkinshaw, 1997).

Substantial research has also been done into the relationships between FDI and host country exports. Several authors have shown that foreign subsidiaries usually export more than locally owned firms. This is caused by two reasons (Blomström, 1990; Dunning, 1994; Lauter and Rehman, 1999):

- 1) Subsidiaries have better business contacts abroad, higher management and marketing skills, superior technology, greater general know-how and the right to use their parents' brand names;
- 2) The owners can help them to set up a distribution network, follow industrial norms, safety standards and consumer tastes; deal with product design, packaging, distribution, servicing and shaping a new product image.

From the above, the following conclusions can be drawn, which will be more closely discussed in the following sections.

- 1) The firms lacking (their foreign owners') network relationships start their internationalization from nearby countries and simpler market operation modes. Afterwards, they may progress to more distant markets and more demanding modes. Other companies may skip some stages and internationalize faster.

- 2) During their internationalization process, firms may de- and re-internationalize.
- 3) The companies linked to a (foreign owner's) network may considerably quicken their internationalization as they can obtain the necessary resources, develop their capabilities and gain market access. Still, network relationships can sometimes inhibit the internationalization process.
- 4) The course of a firm's internationalization process can depend on its role in the foreign owner's network. Some foreign-owned firms may achieve higher value-added activities, exceptional managerial expertise and autonomy inside the foreign owner's network and, as a result, successful internationalization.

Methodology

To examine the conclusions drawn above, case study methodology was chosen which has been an essential form of research in social sciences and management (Chetty, 1996). By combining previously developed theories with new empirically derived insights (Yin, 1994), it is especially appropriate in new topic areas as it can transcend the local boundaries of the investigated cases, capture new layers of reality and result in developing novel, testable and empirically valid theoretical and practical insights (Eisenhardt, 1989; Voss *et al.*, 2002).

In this paper, the multiple case study approach was used. This may reduce the depth of study, but it can both augment external validity and help guard against observer bias (Voss *et al.*, 2002). In the multiple-case approach there is no ideal number of cases. With only a couple of cases, it is difficult to generate a theory, and with a large number cases, it is difficult to cope with the volume of data (Eisenhardt, 1989). This paper is based on 13 cases, i.e. the full sample of Estonian listed companies at the moment on February 28th, 2006, and the case of Hansabank that had been a

listed company until the end of June, 2005: for almost 10 years. To increase the validity and reliability in studying these firms' internationalization, several sources were used. They included some previous interview material (for more information, see Vis-sak, 2003), newspapers, the firms' homepages and annual reports.

Case study evidence

Some basic data about the 13 case companies are presented in Appendix 1. It can be easily seen that these firms differ greatly from one another. Their year of foundation varies between 1809 (Kalev) and 1992 (Hansabank Group), turnovers/revenues range from 4.8 (Tallinna Farmaatsiatehas) to 360.2 (Hansabank Group) and assets vary from 4.0 (Tallinna Farmaatsiatehas) to 7622.9 million EUR (Hansabank Group) and their number of employees is between 72 (Tallinna Farmaatsiatehas) and 6855 (Hansabank Group). Their main areas of operation also differ (except in the case of Baltika and Klementi that both produce and sell women's clothes). Moreover, some of the companies do not have major foreign shareholders (Baltika, Harju Elekter, Kalev, Klementi, Merko Ehitus, Tallink Grupp, Tallinna Kaubamaja and Viisnurk), while others do: they are respectively from Sweden (in the case of Eesti Telekom, Hansabank Group, Norma and Saku Õlletehas), Finland (Rakvere Lihakombinaat), Latvia (Tallinna Farmaatsiatehas), the Czech Republic (Starman) and the United Kingdom (Tallinna Vesi). As a result, it is not surprising that the case firms have not internationalized in similar ways.

The companies' export share/revenue from abroad varies between about zero (Eesti Telekom, Starman) and 99.8% (Tallinna Farmaatsiatehas), the number of (main) export markets is between one (Tallinna Farmaatsiatehas, if to exclude the countries to which its owner's sales department in Latvia sells its production: Belarus, Georgia, Russia, Kazakhstan, Ukraine, Moldova, Armenia, Lithuania, Poland and Hungary) and about 20 (Viisnurk), and

the number of the countries where the firm has foreign subsidiaries varies from zero (Eesti Telekom, Saku Õlletehas, Starman, Tallinna Farmaatsiatehas, Tallinna Kaubamaja) to seven (Baltika; moreover, in some of these countries, this firm has several shops). Their internationalization geography is also dissimilar: most of the companies export to (or have established subsidiaries on) their nearest markets, such as the Baltic states, Scandinavia and Russia, as the U- and I-models and the Finnish model “prescribe”, while some more distant countries, e.g. the USA, Canada, Kazakhstan and Japan, are also present in some cases (namely, Harju Elekter, Norma, Kalev, Saku Õlletehas and Viisnurk), although these firms have not entered all the nearest countries as the models would have predicted.

Moreover, due to the fact that service companies do not export similarly to those providing physical products, some of the case firms (Eesti Telekom, Hansabank Group, Tallink Grupp and Tallinna Kaubamaja) started their internationalization from foreign subsidiaries (Eesti Telekom and Tallinna Kaubamaja decided to sell them later), which also deviates from the process described by the U-, I- and the Finnish model.

Furthermore, some case companies have established subsidiaries outside the EU: for example, Viisnurk in Switzerland, Kalev in the USA, Tallink on the Bahamas and Cyprus (the latter has registered its ships there, so it cannot be considered a classical case of internationalization). Yet none of the companies could be called “born global”, as 14 of them are active only on one or two continents. Saku Õlletehas has exported to Japan and the USA (thus being active on three continents), but its exports to these markets started over 170 years after its foundation (the firm’s predecessor was founded in 1820). Viisnurk also exports to three continents (Canada and Kazakhstan are among its many export markets), but this firm has been active since 1945. Hence these two companies have some characteristics of “born-again globals”, not born globals: they have not internationalized as fast as this

theory would have predicted. Moreover, a typical “born global” company is supposed to be smaller.

The case firms have also had different re- and de-internationalization experiences. For example, the older companies (Baltika, Eesti Telekom, Harju Elekter, Kalev, Klementi, Rakvere Liha-kombinaat, Saku Õlletehas, Tallinna Farmaatsiatehas and Viisnurk) either had to pull back from or decrease the share of several markets after the Soviet Union dissolved (Norma managed to retain its main customer in Russia but the share of this market has decreased considerably in the firm’s export structure), Klementi had, in addition to that, to deal with its foreign owner’s (PTA Group’s) bankruptcy that considerably affected its (international) development and Viisnurk decided to sell some of its formerly successful divisions, while some firms have had some de-internationalization experience on only a couple of markets (like, for instance, Eesti Telekom that sold its subsidiaries in Latvia and Lithuania, and also Hansabank, but the latter re-entered Russia later).

There seems to be no clear positive relationship between the share of foreign ownership and the share of exports/the number of foreign subsidiaries that the case companies have. For example, Baltika has a relatively large export share (74.5%) and the largest number of subsidiaries (over 60 shops in 5 foreign countries), but its largest foreign shareholder – SEB AB Clients from Sweden – only has a 10.2 percent share. Tallinna Farmaatsiatehas, in turn, exports only to Latvia (99.8% of its turnover) and has no foreign subsidiaries, although 95% of its shares belong to a Latvian company, Grindeks. Eesti Telekom, also majority-foreign-owned, currently earns none of its revenue from abroad (before it sold its subsidiaries, the share of foreign revenue was 7.9%). Kalev, on the other hand, mostly belongs to Estonian investors, but has managed to establish a subsidiary in the USA and export to several markets, including those outside the Baltic States and Scandinavia.

However, this does not mean that foreign ownership and network relationships do not matter. For instance, Baltika has created close relationships with several retailers both in Estonia and abroad. The managers acknowledge that their former largest shareholder BRF (registered in Guernsey) invested into the firm and supported its development in many ways. Hansabank has also benefited from several long-term relationships with companies both in- and outside the corporation. From Swedbank, it has acquired knowledge and assistance in internal audit and risk management as well as improved its image and credit ratings (see also Vissak, 2003). Norma has likewise gained from its relationship with Autoliv, its major shareholder from Sweden: it has acquired access to new technology, improved its production quality and timeliness of supply, and is now able to provide new security systems for several car models, not only those of Avtovaz, its largest Russian customer. Its engineers have been included in Autoliv's R&D team. Moreover, the increased integration into Autoliv's production and marketing network has helped Norma to increase its exports to some Western countries, such as Sweden, Germany, France, the Ukraine and the USA. Thus, in some cases, firms linked to a (foreign owner's) network may internationalize fast.

There is also some evidence of the impact of a firm's autonomy in its foreign owner's network on its internationalization process. For instance, both Baltika and Hansabank have declared themselves to be relatively autonomous (Swedbank assured that Hansabank's relative autonomy would not be reduced even after it obtained 100% of it on June 30th 2005), but both have internationalized successfully. Moreover, both firms have made considerable efforts to increase their value-added and develop (managerial) expertise: in other words, they have acted entrepreneurially. This has clearly quickened their internationalization.

Conclusions and implications

In the theoretical part of the paper, it was proposed that the internationalization of the companies not belonging to (their foreign owners') networks normally starts from the geographically closest countries and simpler market operation modes and may progress to more distant markets and more demanding forms of market operation. Larger, more experienced companies with sufficient resources and supportive network relationships can internationalize faster. In addition, this process may include de- and re-internationalization. It was also concluded that by joining a (foreign owner's) network, firms could considerably quicken their internationalization as through network relationships they can obtain the necessary resources, develop their capabilities and gain market access. On the other hand, these aforementioned relationships may sometimes inhibit the companies' internationalization. Furthermore, it was proposed that that a company's role in the foreign owner's network might considerably influence the course of its internationalization process. Some foreign-owned firms may achieve higher value-added activities, larger autonomy and exceptional managerial expertise and, as a result, internationalize successfully.

The case study evidence lent some support to these conclusions. Most companies export to geographically closest countries or have subsidiaries there (but some of them have also entered farther-lying countries first or started their internationalization from establishing subsidiaries abroad); foreign owners have offered them some support in internationalization (although there is no universal rule that foreign-owned firms are always more international – the evidence from some case companies clearly shows that); some enterprises have de- and re-internationalized and at least in one case, a foreign owner has caused substantial problems for its Estonian subsidiary. There was also some evidence that some firms can reach quite an important role in their owners' networks and, as a result, internationalize very successfully.

Consequently, although it is hard to foresee the effects that foreign ownership will have on a particular subsidiary, in general, such relationships should not be avoided. From network relationships (with its owner and other companies belonging to its network), a firm may benefit and quicken its internationalization. However, this is not a universal rule. There is also some evidence that a foreign owner might harm its subsidiary. Consequently, such relationships should be created and developed with great care. Some other ways for establishing international contacts and acquiring knowledge, like creating strategic alliances or hiring the people with such knowledge and relationships, should also be considered. It is also very important to be entrepreneurial and try to achieve a more important role in the (foreign owner's) network as this may considerably quicken a firm's internationalization.

The results of this paper give some support to almost all of the existing internationalization theories (naturally, the sample size was too small to reject or prove their main postulates, but this was not the aim of this chapter). However, there are some exceptions: for instance, there were no typical born global firms in the sample, but many firms did not internationalize exactly as the U-, I- and the Finnish model would have expected, either. Consequently, the internationalization process should be studied further. For example, more attention should be paid to the emerging literature on born-again globals, and de- and re-internationalizers, as they pay attention to some deviations from the classical or born-global internationalization route.

In addition, the characteristics of (foreign) owners and their subsidiaries should be examined more insightfully. Moreover, their managers' views, for instance, their short-term/long-term perspective, seeking/avoiding long-term relationships should also be analyzed more thoroughly, as relationships between the parent and its subsidiary may largely depend on their managers, their capability to create, maintain and improve these relationships.

This topic is especially meaningful when examining a (foreign) subsidiary's role in the parent company's business network.

More attention should also be paid to the negative impacts of FDI on foreign subsidiaries' internationalization, for example, forcing them to follow certain export orders, blocking their access to some markets or even liquidating their previous international operations. It should also be examined more closely why and how FDI fail – for example, how a foreign owner's bankruptcy could influence a foreign-owned enterprise's internationalization – and why some locally owned firms do not achieve considerable success in their internationalization, either. Only then will it become possible to make more specific suggestions to managers about how to act or react in certain situations, and indicate what changes should be made by host countries in order to attract more foreign direct investments or reduce their foreign trade deficit.

Finally, in order to study the main conclusions of the existing theories further, more firms should be examined. This chapter gave an overview of the internationalization of all listed Estonian companies, but it might also be useful to study Latvian, Lithuanian, Finnish and other listed and unlisted firms, make interviews and surveys, compose longer cases and maybe also construct some models. Then it would be possible to reveal the similarities and differences between these countries and firms, and give more support or, on the contrary, disclose the main problems of the existing internationalization theories.

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Appendix 1. Comparison of born globals and traditional internationalizers

	A traditional internationalizer	A born global
Market selection	Home market first, others later (gradual entry from the closest to more distant markets)	Many markets fast; the home market does not have to be entered first
Pace of internationalization	Slow and gradual both in terms of market selection and entry modes	Very fast (at once or a couple of years after establishment)
Entry modes	Exports first, sales and production subsidiaries much later	Subsidiaries may be established even before exporting
The approaches studying them	The U-model, the I-models; to some extent, the Finnish model and other streams of literature	The born-global literature; to some extent, the network approach, the FDI and other literature

Appendix 2. Comparison of case companies

Baltika (founded 1928/listed 1997/foreign ownership since 1996), clothing trade (76 shops, 3 production units). Main data, 2003: turnover: 31.7, assets: 20.7, profit: -4.0 million EUR, exports: 72.2% (Est: 28.1, Lit: 16.3, Ukr: 11.2, Lat: 10.5, Pol: 9.8, Rus: 8.0, Fin: 8.0, Swe: 4.7, UK: 3.3), employees: 1696. Foreign subsidiaries by year(s) of foundation: Lit 1993, Swe 1996, Ukr 1997/ 2000, Pol 1999, Lat 1996, Fin 1996, Rus 1994/2004. Main shareholders: Bank of Bermuda/BRF (Guernsey, 35.7), BMIG (Estonia, 19.5%)

Eesti Telekom (1991/1997/1999), telecommunications. Revenue: 307.3 (Est 92.1, Lat and others 7.9%), assets: 267.8, profit: 66.2 MEUR, employees: 2452. Foreign subsidiaries: Lat 2002, Lit 2004, through Lat. Main shareholders: Baltic Tele Aktiebolag (Swe, 50.3), Estonian state (27.2), Deutsche Bank Trust Company Americas (USA, 12.2%)

Hansabank Group (1992/1996 until June 30th, 2005/1998), banking, 281 offices. Revenue: 360.2 (Est 51.8, Lat 22.9, Lit 22.1, Rus 2.5%), assets: 7622.9, profit: 130.9 MEUR, employees: 6005. Foreign subsidiaries: Lat 1995, Lit 1996, Rus 1997/2002, Ukr 1997. Main shareholders: FöreningsSparbanken AB (Swe, 100% since June 30th, 2005)

Harju Elekter (1968/1997), electrical equipment and materials. Turnover: 21.9 (Est 52.8, Fin 39.2, Lit 3.7, Other EU 1.1, Other Europe 0.8, Rus and Eastern Europe 1.3, USA 1.1%), assets: 38.5, profit: 11.2 MEUR, employees: 353. Foreign subsidiaries: Fin 2002, Lit 2003. Main shareholders: Harju KEK (Est, 30.1), ING Luxembourg 9.2, Lembit Kirsme (Est, 8.3), SEB (Swe, 7.2), Endel Palla (Est, 5.6%)

Kalev (1809/1996), confectionery and other food products, real estate. Turnover: 39.9 (Est 84.2, other Baltic states 4.3, other Eastern Europe 2.9, Scandinavia 1.1%), assets: 44.1, profit: 1.1 MEUR, employees: 827. Foreign subsidiaries: USA 2001. Main shareholders: SEB AB Clients 15.2, Linderin Group 12.4, Tallinna Piimatööstuse AS 11.8, Mailtec 10.2, Eesti Ühispank 7.5% (all from Est), SEB AB Finnish Clients 7.0, ING Luxembourg 5.8%.

Klementi (1944/1997/1999–2002), production and sales of women's apparel. Turnover: 8.5 (Est 38.7, Fin 31.8, Swe 16.1, Lat 7.4, Lit 5.5%), assets: 7.8, profit: –1.4 MEUR, employees: 460. Foreign subsidiaries: Fin 1998, Lit 2000, Swe 2003, Lat 2003. Main shareholders: Alta Investments I (Est, 23.8), Bryum Estonia 19.6, ING Luxembourg 9.7, Hansa Balti Kasvufond, (Est, 9.6), Alta Capital (Est, 7.5), SEB AB Clients (Swe, 4.9%)

Merko Ehitus (1990/1996/2003), construction. Turnover: 173.1 (Est 73.2, Lit 16.0, Lat 9.7%), assets: 73.2, profit: 11.8 MEUR, employees: 609. Foreign subsidiaries: Lat 1997, Lit 1998. Main shareholders: Merko Group (Est, 72.0), ING Luxembourg 6.9, SEB AB Clients (4.9%).

Norma (1891/1996/1999), safety belts and car accessories. Turnover: 63.9 (Swe 54.6, Rus 38.8, Est 1.7, Ger 1.0, Ukr 0.9, Fra 0.9, Cze 0.6, ten other countries, including USA, 1.5%), assets: 58.5, profit: 8.2 MEUR, employees: 848. Foreign subsidiaries: Rus 1996. Main shareholders: Autoliv AB (Swe, 51.0), ING Luxembourg 7.4, SEB AB Clients (Swe, 6.0%).

Rakvere Lihakombinaat (1890/1997/1998), purveyance, processing and sale of meat. Turnover: 74.5 (Est 60.9, Lat 25.0, Lit 12.2, Ukr 1.1%), assets: 52.3, profit: 2.5 MEUR, employees: 1154. Foreign subsidiaries: Lat 1997, Lit 1998. Main shareholder: HK Ruokatalo OYJ (Fin, 95.7%).

Saku Õlletehas (1820/1996/1991), alcoholic beverages and soft drinks. Revenues: 29.6 (Est 90.6, Lit, Lat, Fin, USA, Jap 9.4%), assets: 29.1, profit: 3.5 MEUR, employees: 247. Foreign subsidiaries: none. Main shareholders: Baltic Beverages Holding AB (Swe, 75.0), ING Luxembourg 5.0%

Starman (1992/2005/1996), cable television and data services. Turnover: 9.7, assets: 17.0, profit: 1.0 MEUR, employees: 191. Foreign subsidiaries: none. Main shareholders: Highbury Investments B.V. (Cze, 33.4), OÜ Constock (Est, 18.1), OÜ Com Holding (Est, 14.8%).

Tallink Grupp (1989/2005/2003), shipping (passenger and freight transport, hotel business. Turnover: 260.0 (includes sales to Finnish, Swedish, Russian and others passengers), assets: 443.0, profit: 30.0 MEUR,

employees: 2710. Foreign subsidiaries: Fin, Swe, Rus, Cyprus, Bahamas. Main shareholders: Infortar (Est, 43.4), ING Luxembourg 8.9, SEB AB Clients (Swe, 6.3%).

Tallinna Farmaatsiatehas (1914/1996/1998), production of medications. Turnover: 4.8 (Lat 76, Est 24%), assets: 4.0, profit: 0.7 million EUR, employees: 87. Foreign subsidiaries: none. Main shareholders: Grindeks PLC (Lat, 64.1%), Grindeks (Lat, 29.4%).

Tallinna Kaubamaja (1960/1997/1998), department store. Turnover: 112.5 (exports not known, but sales to foreigners might be around 1/5 of total sales), assets: 62.0, profit: 4.2 MEUR, employees: 1467. Foreign subsidiaries: Fin (1996, active until 1998). Main shareholders: NG Investeeringud (Est, 66.8), ING Luxembourg (9.1), SEB AB Clients (6.5%).

Tallinna Vesi (1967/2005/2001), water supply and wastewater services. Turnover: 35.0, assets: 142.2, profit: 11.1 MEUR, employees: 350. Foreign subsidiaries: none. Main shareholders: United Utilities B.V. (UK, 35.3), City of Tallinn (34.7), Nordea Bank Finland PLC Clients (10.2%).

Viisnurk (1945/1996/1997), furniture. Turnover: 25.1 (Est 24.9, Fin 19.7, Swe 12.7, Ger 10.7, Den 5.0, Hol 4.2%; also exports to over 10 other countries), assets: 15.2, profit: -4.4 MEUR, employees: 407. Foreign subsidiaries: Switzerland (2004). Main shareholders: Bank of Bermuda/ BRF (Guernsey, 59.5), ING Luxembourg (11.1), SEB AB Clients (5.0%).

7. THE ROLE OF ENTREPRENEURIAL ACTIONS IN THE DE-INTERNATIONALIZATION OF ESTONIAN ENTERPRISES: ENTREPRENEURS' PERCEPTIONS¹

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Abstract

The purpose of this chapter is to identify the role of entrepreneurial actions in the de-internationalization of Estonian manufacturing enterprises. There are three main groups of reasons behind de-internationalization – lack of international experience, a change of strategy, and an increase in production costs or poor performance –, and the influence of entrepreneurial activities varies for each case. The results of three case studies that are employed in the chapter suggest that in the case of Estonian manufacturing firms the focus has shifted from those reasons of de-internationalization where entrepreneurial actions are influential towards the one where strategic actions dominate. The case studies also indicated that the relationship between entrepreneurial actions and de-internationalization is not unidirectional since de-internationalization can often lead to intensified entrepreneurial activities.

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Introduction and theoretical foundations

Entrepreneurship and internationalization have both enjoyed considerable research attention but until the 1990s there were only a few contributions that integrated these two approaches. By now globalization processes have fostered integration of these two strands of literature and research in the field of international entrepreneurship (Fletcher, 2004; Giamartino *et al.*, 1993).

The definition of entrepreneurship suggests that this is a context-specific social process that leads to creating wealth by exploiting marketplace opportunities with unique packages of resources (Ireland *et al.*, 2001). Some authors stress the importance of innovation, proactiveness and risk-taking in explaining the nature of entrepreneurship (Kreiser *et al.*, 2002). In this context, international entrepreneurship can be defined as “a combination of innovative, proactive, and risk-seeking behaviors that crosses national borders and is intended to create value in organizations” (McDougall and Oviatt, 2000).

Opportunities for wealth creation are influenced by entrepreneurial and strategic actions. There are six domains that are all dependent on entrepreneurial and strategic actions and can contribute to a firm's growth (see Figure 1). Strategic actions are related with establishing and exploiting competitive advantages within a particular environmental context, while entrepreneurial actions comprise search for new advantages (Ireland *et al.*, 2001).

Most of the research on international entrepreneurship concentrates on positive developments in internationalization when a firm increases its commitment to international markets (Fletcher, 2004; Geursen and Dana, 2001). However, the objective of wealth creation can also lead to de-internationalization² activities in order

² Benito and Welch have suggested that de-internationalization is “any voluntary or forced action that reduces a company's engagement in or exposure to current cross-border activities” (Benito and Welch, 1997).

to close down these operations that are not profitable or show poor operating results. Moreover, globalization processes have forced enterprises to re-evaluate their internationalization strategies and activities, having thus in many cases caused de-internationalization activities.

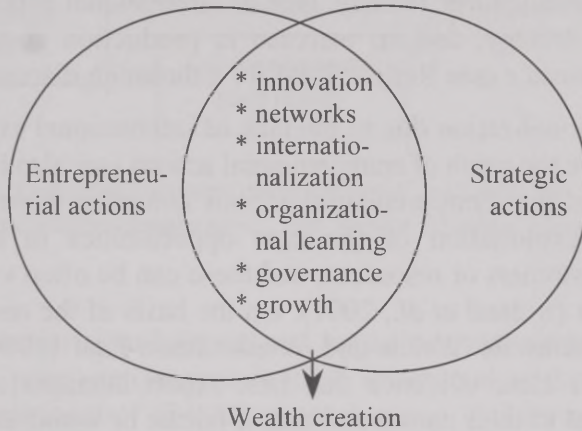


Figure 1. Creating wealth through entrepreneurial and strategic actions (Ireland *et al.*, 2001).

Estonia is a small transition country that has relatively modest experience in the fields of both internationalization and entrepreneurship. In the case of Estonia, before 1991 all foreign trade was coordinated by Moscow and so knowledge of foreign activities was absent in this newly independent republic at the beginning of the 1990s. Moreover, there was not only lack of foreign market experience, but also lack of knowledge of the local market and tradition of entrepreneurship. At the same time, due to globalization and integration, most firms in transition economies are experiencing pressure to internationalize (Svetličič and Rojec, 2003). However, lack of experience and pressure to find markets for their products abroad may easily result in wrong decisions, causing de-internationalization.

This chapter attempts to identify the role of entrepreneurial actions in the de-internationalization activities of Estonian manufacturing firms. The analysis is based on three interviews that were completed in 2004.

Previous research has identified three main groups of reasons behind de-internationalization, namely, lack of international experience, a change of strategy, and an increase in production costs and/or poor performance (see Reiljan 2004 for a thorough discussion).

De-internationalization due to the lack of international experience is likely to be the result of entrepreneurial actions (see also Figure 2). It is claimed that entrepreneurial actions comprise those that are related to exploitation of the new opportunities in terms of markets, customers or resources, and these can be often viewed as experiments (Ireland *et al.*, 2001). On the basis of the research of export withdrawals Welch and Wiedersheim-Paul (1980) argue that there is clear evidence that first export attempts are often experimental in their nature and thus a failure or withdrawal from exporting after having made a start is in many cases inevitable. Therefore, experimental behavior and sporadic export activities that are the results of entrepreneurial actions at the international level may cause de-internationalization.

Entrepreneurial actions likewise have an influential role in the case of those de-internationalization activities where a change of strategy can be identified as the main reason. In this case, an entrepreneur has found new opportunities in the foreign markets (Benito, 1997) or in the home market (Elango, 1998) and is eager to exploit them instead of the existing ones. This, in turn, will lead to changes in strategy and strategic actions, since the present operations have to be re-evaluated and some of them have to be closed down in order to enhance wealth creation and effective use of resources. Therefore, a combination of entrepreneurial and strategic activities needs to be applied in the case of de-internationalization activities that are caused by a change of strategy.

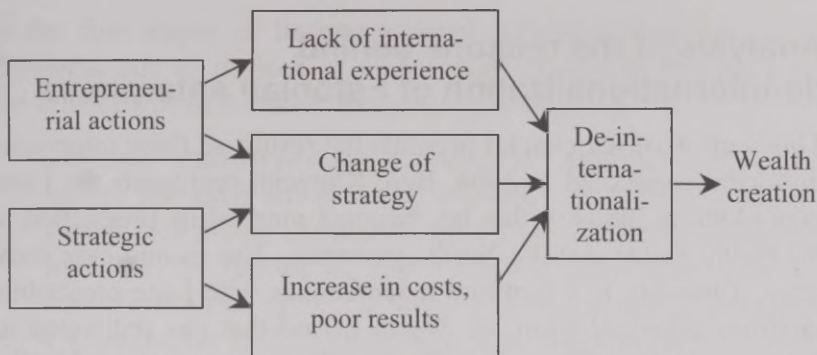


Figure 2. Linkages between entrepreneurial and strategic actions, reasons for de-internationalization, and wealth creation (compiled by the author).

Besides insufficient international experience and strategic considerations, poor performance is often mentioned as the most decisive determinant of divestments and export withdrawals (see, for example, Lindgren and Spångberg, 1981; Pauwels and Matthyssens, 1999; Törneden and Boddewyn, 1974). In this case strategic activities lead to de-internationalization and entrepreneurial actions are not likely to be highly influential.

The following section of this chapter concentrates on analyzing the importance of entrepreneurial and strategic activities in the case of de-internationalization of three Estonian manufacturing companies. The case study method was selected since it enables us to provide in-depth information and the managers' opinions about their main motivations behind withdrawals from foreign markets.

Analysis of the reasons behind de-internationalization of Estonian enterprises

This section of the chapter presents the results of three interviews that were conducted in 2004. Here Klementi represents the Estonian clothing industry that has targeted most of its production to the Baltic States and the Nordic countries. The second case company, Tarmeko, is a furniture manufacturer with huge production facilities inherited from the Soviet period that has redirected its foreign sales from Eastern to Western European markets. Finally, Tarkon is a manufacturer of fine mechanical components, its sales being highly dependent on long-term contracts and its activities tightly integrated with its customers.

In all the above cases the interviews were arranged with the persons who had been CEOs at the time of setbacks in foreign markets, had an ownership in the company and therefore knew the developments and main motivations behind the changes in international strategy. All the interviews were taped. The duration of the interviews was approximately one hour.

Klementi

Klementi has a history that dates back to the year 1944 when it was established. It continued operation throughout the whole Soviet period. The privatization of the enterprise started in 1994 and was completed in 1997. Klementi has three main fields of activity – design, manufacture, and sale of ladies' wear. Besides its own production, it also provides subcontracting services. The firm started its international activities already before privatization. Its first trials were carried out in the Finnish and Swedish markets. It was apparent that the Estonian local market is too small and therefore, besides the Nordic direction, Klementi was also interested in entering Latvia and Lithuania. (Klementi Annual ..., 2001)

In the first stages of its international activities, Klementi faced problems due to its lack of experience. Especially difficult was the selection of distributors in foreign countries:

The most difficult process is finding the right sales representatives for each market. For example, in Finland only the fourth distributor remained and we had good cooperation with him. In Sweden we had a friendly agreement to terminate the contract before deadline with one of our distributors. Of course, we had to pay quite a high compensation for that. With another one we had a lawsuit and had to drop it since the lawyer's fees would have been too high.

Madis Võõras, Klementi

Thus, new possibilities were identified and entrepreneurial actions were taken but due to the lack of international experience, several short-term drawbacks occurred. Active search for new opportunities and clear dominance of entrepreneurial actions is also illustrated in the case of Klementi's experiences in Germany and Austria. In these markets the main problem has been that Klementi's production capacity is too small and its resources quite inadequate for product promotion. Therefore, entrepreneurial actions are not in accordance with the resources that the company possesses and this leads to de-internationalization:

Germans said 3 years ago at a seminar that an Eastern European producer has to consider at least half a million euros, that is about 8 million kroons, per season per brand if it is interested in entering the German market. At the same time, Klementi's marketing budget was around 5 million kroons a year for promotion and all kinds of other things. /.../ We tried our luck in a number of places. We participated in fairs both in Germany and Austria. All our German sales were actually carried out via Austria. /.../ We had very good contacts with one married couple in Austria and they were very interested in selling our products and therefore we tried to enter the

German market, but regrettably it appeared that our capacity was too small. They also say clearly – if you are interested in selling, you have to promote. /.../ A wise businessman would not go and try the thing the potential success rate of which is relatively low, but at the same time, we had nobody to learn from. Experienced Finnish businessmen had an opinion that we wouldn't succeed, but we did not believe them.

Madis Võõras, Klementi

The previously described incidents took place in the early stages of Klementi's international activities. On the other hand, Klementi has experienced de-internationalization in the later stages as well. First, due to the bankruptcy of its foreign owner, it was forced to withdraw from the Nordic markets for two seasons and re-entering was rather difficult. Secondly, in 2003 Klementi closed down its own retail outlet in Lithuania and switched to cooperation with the retail chain Apranga. Thus, de-internationalization because of change in strategy and therefore a combined effect of entrepreneurial and strategic actions is characteristic for Klementi's later international activities.

The importance of poor performance as a reason for de-internationalization has been modest so far; only a few withdrawals have taken place because of it. Madis Võõras from Klementi mentioned that they had to terminate one contract in Finland because of overly high provision and therefore low profitability of a contract.

To conclude, there have been different reasons for Klementi's withdrawals from foreign markets. In the earlier period, lack of experience and sporadic export activities were dominant and therefore the main motive seems to be inexperience. In the later stages, the influence of foreign ownership and changes in strategy prevailed. Therefore, if in the initial stages de-internationalization was caused by entrepreneurial actions, then in the later stages of Klementi's international operations it happened due to these reasons that are determined by strategic considerations.

Tarkon

Tarkon was established in Tartu in 1907. During the Soviet period, “black boxes” or flight recorders for both civil and military aircraft were its main products. The privatization of Tarkon started in 1994 and was completed in 1996. (History of the ..., 2004)

Tarkon started its international activities after the dissolution of the Soviet Union with a few partners and simple production and has developed step-by-step. Its internationalization process has been relatively stable and changes have been mainly determined by external factors. For instance, export to Ireland was withdrawn since the production of a particular printer was transferred to America. The efforts to develop a new printer and all the incurring costs over two years turned out to be losses that both parties had to cover themselves.

Now there has been a major shift in Tarkon’s production portfolio since the company was forced to diversify its activities due to the recession in the world’s telecommunications sector. Before the crisis, they were tempted to enter the fast growing US telecommunications market. The plans to enter it were not entirely affected by the terrorist attacks as Americans had already decided that they were not going to switch to third-generation solutions. Due to the loss of the US market and a crisis in the telecommunications sector, Tarkon was forced to find new markets and competitive advantages within a short period of time:

In a sense, there has been a change in strategy. In the beginning we were concentrating our efforts on the telecommunications sector and tried to develop this side. Changes in 2000 indicated that we had to diversify our activities in order to guarantee stability.

Toomas Noorem, Tarkon

Hence changes in the world economy forced Tarkon to intensify entrepreneurial actions and find new opportunities in the other markets in order to guarantee wealth creation. This approach emphasizes that on the one hand, de-internationalization can be the result of entrepreneurial activities but on the other hand, it may induce entrepreneurial actions.

Lack of international experience and increase in production costs have had no significant impact on shaping the internationalization pattern of Tarkon yet. Therefore de-internationalization has not been due to purely entrepreneurial or strategic activities. However, increase in the importance of strategic activities is foreseen:

The profitability of our activities is an important issue. I believe that we will restructure our activities in the future in order to guarantee sufficient and stable profitability.

Toomas Noorem, Tarkon

To sum up, Tarkon's de-internationalization activities have been caused by a change in strategy. Therefore, both entrepreneurial and strategic actions have been taken. It is likely that in the future strategic actions will dominate over the entrepreneurial ones in Tarkon in deciding about de-internationalization.

Tarmeko

Tarmeko is a furniture producer established in Tartu in 1947. It has 900 employees and belongs among the biggest manufacturing enterprises in Estonia. It produces solid pine furniture, office furniture, upholstered furniture, and form-pressed veneer. (Tarmeko, 2004) The enterprise was privatized in 1994 when 66.6% of the shares were sold to Estonian owners. This process was completed in 1997, when the remaining 33.4% of its shares were sold. (Lühiudised, 1997)

In the case of Tarmeko, there have been de-internationalization incidents both in the earlier and later stages of its international activities. The first wave of de-internationalization was definitely

not caused by lack of experience. Namely, withdrawals from the Russian and other CIS countries' markets were the result of low purchasing power and the influence of the Russian crisis on these markets was also apparent:

In the Soviet time, we produced office furniture. There were three big producers and from our factory five railway carriages of furniture were sent out every day. After losing this market, we had to decide where to put this furniture. There were interested buyers in Russia but the terms of payment and bookkeeping in Russia was a total mess. They came here, put their dollars on the table and carried the furniture away. This was the only way to sell. /.../ During the Russian crisis only 10% of our production was sold in Estonia, all the rest went to other former member states of the Soviet Union. Suddenly, in two years this market just disappeared. /.../ It was difficult to find new markets so promptly. High instability, no experience ...

Olev Nigul, Tarmeko

Here again, like in the previously described case of Tarkon, changes in market environment caused de-internationalization due to a change in strategy and therefore both entrepreneurial and strategic actions have been apparent. It has to be noted that the entrepreneurial actions were taken later, not prior to the de-internationalization. In search of new markets Tarmeko has had experiential export activities in a number of countries. From some of them it has de-internationalized due to its lack of international experience in selecting clients and the limited capacity of the firm:

Dishonest clients often realize that we are not able to fight with them. In such cases we prefer termination of a contract. /.../ The other reason for terminating contracts has been that we do not have enough capacity to provide such big volumes as the client needs.

Olev Nigul, Tarmeko

In the case of Tarmeko, low profitability and loss of competitive advantage based on low production costs can easily be considered the main reasons behind its withdrawal from some markets in the near future. In the case of Germany, there has already been a pressure to reduce the prices. Since 51% of Tarmeko's sales came from Germany in 2003, this will significantly influence the company's future strategic actions.

In conclusion, the first wave of Tarmeko's de-internationalization activities was caused by a change of strategy. This led to intensified entrepreneurial activities in order to find new possibilities in other foreign markets. This, in turn, caused the second wave of Tarmeko's withdrawals from foreign markets during which lack of international activities dominated as the main reason behind de-internationalization. It can be expected that in the future those de-internationalization activities that are caused by entrepreneurial actions will be supplanted by those caused by strategic activities.

Conclusion

In the case of Estonian firms, the analyses of entrepreneurship and internationalization cannot be separated since both of them evolved simultaneously at the beginning of the 1990s, after the country-regained independence. Usually this kind of approach applies in the case of born globals, while in the case of other firms entrepreneurship leads to internationalization in the later stages of a firm's activities (see Fletcher, 2004).

Besides promoting wealth creation through internationalization, entrepreneurial activities can also lead to de-internationalization of companies. The role of entrepreneurial activities is likely to be most significant in the case of these de-internationalization incidents, in which lack of international experience is the main reason for withdrawals. It has the combined effect with strategic actions also in the case of de-internationalization due to a change in strat-

egy. In the case of withdrawals because of poor performance, strategic actions are likely to dominate.

The three case studies that were discussed in the previous part of this chapter indicated that both strategic and entrepreneurial activities have been apparent in the case of the de-internationalization of Estonian manufacturing companies. All three cases illustrate that a shift from these reasons of de-internationalization that are caused by entrepreneurial activities towards those ones where strategic considerations have the main role have taken place in the later stages of a firm's international activities. Therefore, the influence of entrepreneurial actions on de-internationalization of enterprises has a tendency to decrease over time.

The results of the discussion also suggest that de-internationalization activities can induce intensified entrepreneurial actions for detecting new possibilities in other markets or segments in order to promote wealth creation in the future. Therefore, the relationship between entrepreneurship and de-internationalization is not unidirectional. This aspect needs further attention in the future studies in this field of research.

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8. THE ROLE AND DETERMINANTS OF INNOVATION SOURCES IN ESTONIAN WOOD SECTOR COMPANIES¹

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Abstract

This paper uses the data of the Estonian innovation survey from 1998–2000 to address the question about the role of different innovation sources and the factors underlying firms' choices of these innovation sources in the Estonian wood sector. Separate logit models are constructed for ten different innovation sources. The results are commented in the light of the information obtained by interviewing industry leaders in 2003. The article confirms supplier-dominated innovation in wood industries and also the lower absorptive capacities for external R&D information in Estonian wood sector companies compared to the Finnish wood sector. There is an advantage identified for larger firms and firms with foreign ownership in using several external innovation sources. Lack of funds is found to be a discouraging factor and collaborative activities an encouraging factor in the use of several external innovation sources.

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Introduction

From single industry innovation studies almost all tend to deal with science-based industries, while learning and innovation aside them is rarely studied. On the other hand, the aforementioned science-based industries generally account for a small portion of economy, while, for instance, wood-based industries comprise an important part of the economy in Finland, Sweden, Austria and also Estonia. Additionally, the bulk of commercially significant innovations are incremental rather than radical (Audretsch, 1995; Love and Roper, 1999). Since wood-based industries are in the maturity phase of their product life cycle, it is relevant to study how one can rejuvenate these mature businesses and create advantages through innovations (see also Leifer *et al.*, 2000; Baden-Fuller and Stopford, 1994 for this discussion).

Innovation comprises the generation and implementation of new ideas, processes, products or services, which can largely be viewed as entrepreneurial behavior for the sake of improving a company's profitability. Feldman and Francis (2004), however, argue that innovation, entrepreneurship and technological change are interlinked but distinct concepts. Underlying their differentiation is the idea that providing the components of one does not guarantee the development of others. Innovation without entrepreneurship does not result in (regional) growth, if innovations are not implemented and marketed. On the other hand, entrepreneurship without innovation does not result in technological development. Hence, the terms should be seen as somewhat concurrent, but also complementary. In the empirical part of this article, those innovation sources² will be analyzed that have been carried into practice by entrepreneurs in Estonian wood sector firms.

This paper addresses the questions: What are the relevant innovation sources in the innovation of Estonian wood sector firms and

² Primary sources of specific information that was used in implemented innovation projects.

which factors stimulate or hinder the use of different innovation sources at the microeconomic level? The perception of the role of different innovation sources and the underlying firm-level decisions will allow for a more adequate description of industry-level innovation activities, also contributing to the assessment of a respective sectoral innovation system. In this article, it is possible to analyze only *ex post* decisions concerning the choice of the innovation sources that have successfully led to an innovation (both product and process innovations are considered). The paper explores the behavior of Estonian wood sector firms belonging to the wood-based value-network (i.e. the wood processing, paper and furniture industries).

The role and determinants of innovation sources

Innovation is usually not a single-firm activity; it increasingly requires an active search process in order to tap new sources of knowledge and technology and apply them in product and production processes (Roelandt and den Hertog, 1999). It requires the creation of new knowledge or combination of the existing knowledge in a new way and hence is based on learning, which is largely a social process, especially by transferring and accumulating tacit knowledge (Howells, 1995). According to Lundvall (1995), interactive learning and collective entrepreneurship are both important for innovation; hence one should look at innovation as an iterative, cumulative and cooperation-based phenomenon (Freel, 2003). Innovation opportunities exist because of information asymmetry. Firms that have access to a large variety of sources of information are in a better position to identify and develop innovation opportunities (Venkataraman, 1997).

Industrial firms are gaining ideas for innovation from different sources and their innovative performance depends on how successful they are at appropriating knowledge from these sources

(Von Hippel, 1988; Cohen and Levinthal, 1990). Both, internal capabilities and openness towards knowledge sharing are important for upgrading innovative performance (Caloghirou *et al.*, 2004). The use of external resources depends on the absorptive capacity of companies (Cohen and Levinthal, 1990).

According to Pavitt's taxonomy (1984), wood, furniture and paper industries belong to supplier-dominated sectors by their characteristics of technological development and innovation. This means that the dominant sources of technology and information are the suppliers, government-financed research institutions and less frequently large users. In these industries, competitor collaboration may often be present. Since supplier-dominated firms are believed to make only a minor contribution to their product and process technology (Pavitt, 1984), one would anticipate limited association between internal resources and innovation (Freel, 2003). According to Maillat (1991), in contrast, external resources are of little use for firms with incremental innovations, because the resources needed for these innovations can usually be found inside the firm. Firms with radical product and process innovations would require more than their limited internal resources could provide. Oerlemans *et al.* (1998) find that firms with incremental innovations use both types of sources – internal as well as external. The reason is that the gradual development of technology makes it easier to join internal and external resources, since the gap is smaller. Oerlemans *et al.* (1998) found that in supplier-dominated industries, important innovation partners include large suppliers and buyers, but also other companies in the same industry. They additionally found public technology policy to be an important contributing factor to these sectors' innovation.

The role of clients as a source of information for innovation has been recognized since the 1970s (Von Hippel, 1988; Rothwell, 1977; Kline and Rosenberg, 1986). According to Amara and Landry (2005), clients influence the product and process innovations in the following ways: by providing complementary knowl-

edge and access to tacit knowledge; by establishing a precise set of user requirements; by providing information about new or evolving needs; by giving information about post-launch improvements; and by enhancing the likelihood that the innovation will be adopted by other firms within the same user community. Amara and Landry (2005) suggest that clients are used as information source by firms that initiate innovations as the world's first introductions rather than as incremental innovations.

Suppliers are also sources that are used similarly with clients for getting innovation information (Teubal *et al.*, 1991; Bruce *et al.*, 1995). However, the information linkage is based on either making or buying relations. The tendency in recent decades has been on downsizing and focusing on core competencies, which is likely to increase the role of suppliers in innovation processes (Amara and Landry, 2005). Suppliers and customers are sources of foreign knowledge for a firm through exporting goods and services or importing materials and technology.

A competitor as a source of innovation has been studied in the literature of strategic alliances. Openness of knowledge may speed up the pace of innovation as competitors are able to build on other innovators' advances rather than being allowed to block the progress of others (Foray, 1997). Amara and Landry (2005) have concluded on the basis of the existing literature that the information obtained from competitors is related to the increased complexity and intersectoral nature of new technologies, the reduction of uncertainty and R&D costs associated with market access, or the development of product and process innovations (by acquisition and appropriation of the partner's tacit knowledge, uptake of codified knowledge; by reduction of the period between invention and market introduction). Caloghirou *et al.* (2004) argue that innovativeness is increased by partnerships in alliances or strategic collaborations.

The exploitation of universities as a source of innovation depends on the average absorptive capacity of firms in the sector (Cohen

and Levinthal, 1990). According to Laursen and Salter (2003), larger firms and firms with stronger R&D intensity use universities as an innovation source relatively more often. However, there are large differences across industries in this respect.

From the theoretical discussion in this section, we expect to get support to the empirically lower intensity of information utilization by the Estonian wood sector compared to the Finnish one. From sectoral specifics, the dominance of suppliers, customers and R&D institutions in innovation sources can also be expected. The relative importance of internal *vis-à-vis* external innovation sources remains unclear in the theoretical discussion.

Innovation sources of the companies in the Estonian wood sector

According to the Estonian innovation survey, the relative importance of innovation sources used by the wood sector companies compared to their Finnish counterparts is given in the following table. The Finnish wood cluster is among the most advanced and competitive ones in the world (see also Blomström and Kokko, 2002) and is therefore used for comparison here.

If we look at the general picture, the relative importance of the information linkages with innovation activities has similar patterns in the Estonian and Finnish wood and paper industries. Generally, the use of innovation sources in the Finnish wood and paper industry is more intensive than in the Estonian industry. The intensity of the internal sources of the company is very similar in both countries' wood sectors. However, some interesting differences can be noticed when the strong and mature wood cluster of Finland and the developing industry of Estonia are compared.

In case of wood industries, the predominant information sources (besides the internal ones) are customers and suppliers, which is completely in line with the sectoral results of Pavitt (1984) and

Oerlemans *et al.* (1998). Some aspects of the relatively important role of competitors for Estonian companies can be revealed by interviews: Estonian companies are not real competitors (as exceptions here only domestically competing sawmills can be considered), but sell on very diverse foreign market niches.

Table 1. Comparison of the relative importance of innovation sources in Finnish and Estonian wood-based industries³

Innovation source	Paper Industry		Wood Industry	
	Finnish	Estonian	Finnish	Estonian
The company itself	2.42	2.43	1.82	1.81
Competitors	1.42	1.14	1.43	1.31
The parent company	1.11	1.00	0.61	0.57
Customers	2.11	1.43	1.75	1.57
Suppliers	1.53	1.71	1.68	1.60
Exhibitions	1.26	1.29	1.50	1.35
Conferences and meetings	1.16	1.00	1.18	0.86
Consulting companies	0.79	0.29	0.82	0.33
Universities	1.21	0.29	1.07	0.12
Research institutes	1.00	0.12	0.89	0.13

Very often the companies collaborate in order to strengthen their competitiveness in foreign markets (Kull, 2003; Kuldkepp, 2003; Agasild, 2003). The almost non-existent innovation sources for Estonian wood and paper companies are universities and other research institutions (the means being 0.12 and 0.13). The problem is characteristic of the whole cluster and was stressed in the inter-

³ The Finnish data are from 1999 (Viitamo, 2001), the Estonian data from 1998–2000 (Innovation in Estonian Enterprises in the Years 1998–2000). In both cases, the respondents were asked to rank alternative innovation sources by importance (0 = no importance, to 3 = very important). In the table are shown mean scores of the responses. The wood industry here also involves furniture manufacturing.

views (Botvinkina, 2003), because wood technology research and schooling is lagging behind the industry's needs. In fact, the Estonian universities prepare hardly any pulp and paper technology or wood material technology specialists at all. The minor role of R&D institutions reflects the technology absorption phase characterizing the development of the Estonian wood sector.

From the results above one can conclude that firms' internal sources are most important for determining the innovation in both Finnish and Estonian wood sectors. Other dominant sources confirm Pavitt's results and include suppliers, customers and competitors.

Data and methods

In the following analysis, the database Innovation in Estonian Enterprises (on CIS methodology) covering the years 1998–2000 is used. Only those wood sector firms are included in the sample which had realized their product or process innovation in the period 1998–2000. The sample includes 114 companies (6 from the paper industry, 66 from the wood and wood processing industry and 48 from the furniture industry).

Binary logit models are constructed for every innovation source separately, whereby one can model a particular choice behavior, explaining it by the set of explanatory variables describing the company and its operating environment. The dependent variable has two values: 1 – if the information source is chosen, and 0 – if it is not chosen. The probability of choosing the innovation source is p and the probability of not choosing the respective innovation source is $1-p$. For the estimation, the maximum likelihood method is used⁴. The theoretical considerations underlying this

⁴ The likelihood function estimated has the following form (which assumes linearity in parameters): $L = \beta_0 + \beta_1 X_1 + \dots + \beta_i X_i$. The link function estimated is: $\eta = \ln \frac{p}{1-p}$, where $\begin{matrix} p \in [0,1] \\ \eta \in [-\infty, \infty] \end{matrix}$, from which we have:

model assume that the preferences or tastes that are leading to a decision about the choice of a single firm are implicitly contained in the form and parameter estimates of the logistic function (Ben-Akiva and Lerman, 1985).

The independent variables, i.e. the factors that influence the probability of choosing one specific innovation source, are formed considering the survey. From the set of individual variables only those are considered which changed the likelihood more than 0.01% (the backward stepwise method in SPSS is used).

The following variables are entered in the models:

LNTURNOVER: the logarithm of the annual turnover in 2000;

SPECIALISTS: the ratio of workers with a higher (including higher professional) or secondary professional education based on secondary general education to total labor in 2000;

EXPORT: the share of export in turnover in 2000;

FOREIGN: a binary variable equals 1 if the foreign ownership was present, and 0 if not);

INNOVCOST: the total cost of innovation concerned the activities in this period.

The variables describe different barriers to innovation. All of them can take 4 values (0 – no barrier, 1 – low barrier, 2 – medium barrier, 3 – high barrier): B_RISK: innovation is too risky; B_LAW: insufficient flexibility of regulations or standards; B_LABOUR: lack of qualified personnel; B_CONSUMERS: lack of customer responsiveness to new goods or services;

$$\frac{p}{1-p} = e^{\beta_0 + \beta_1 X_1 + \dots + \beta_i X_i} \quad \text{and hence} \quad p_i = \frac{e^{\beta_0 + \sum \beta_i X_i}}{1 + e^{\beta_0 + \sum \beta_i X_i}}$$

is the logistic function (Aldrich and Nelson, 1984). This function is continuous and can take the values from 0 to 1. The probability approaches 0 if the function approaches negative infinity, and 1 in the case when this function approaches infinity, in between the function is monotonically growing.

B_NOFINANCE: lack of funds for innovation; B_KNOWTECH: lack of information on technology; B_KNOWMARKET: lack of information about markets; B_COSTS: innovation costs are too high. B_ORG: organizational barriers to innovation.

Also variables are included to describe the cooperation arrangements of innovation activities with other enterprises or institutions during the period 1998–2000. Here the variables have a binary form, i.e. are equal to 1 if the firm cooperated with the following partners: C_SUPPLIERS: suppliers of equipment, materials, components of software; C_UNIVERSITIES: universities and higher schools, their units and institutes; public and private non-profit R&D institutions; C_COMPETITORS: competitors and other firms from the same industry; C_CONCERN: other enterprises within the concern; C_CLIENTS: clients or customers; C_CONSULTANTS: consulting firms.

The results for the estimated models are presented in Table 2. Here only the coefficients are discussed which were entered into the final models and marked by bold figures). There are problems connected with the interpretation of the regression coefficients. The effect of change in X_i on the probability $Y_i = 1$, for example, is clearly related to, though not completely determined by β_i . The sign of β_i determines the direction of the effect, and the effect tends to be the larger the larger is β_i (Aldrich and Nelson, 1984). But since the magnitude of the effects varies with the values of the exogenous variables, it is not so simple to describe the effect. For its better description, the odds ratio (describing the odds of one event relative to another) is used⁵.

⁵ In order to interpret the logistic coefficients, in SPSS the factor $\exp(B)$ is computed, which shows how much the odds ratio changes when the i th independent variable increases by one unit. Based on this factor, the independent variables in Tables 1 and 2 are differentiated as:

Variables that do not influence significantly the respective probabilities (i.e. confidence intervals of $\exp(B)$ include 1 and this factor leaves the odds unchanged);

As can be seen from Table 2, larger companies choose several different innovation sources (within the company, suppliers, conferences, fairs). This is generally the expected result as discussed in the OECD (1999), smaller firms tend to have more limited financial and human resources, are less ready to access the information, and have shorter time horizons. In addition, they are more risk-averse and reluctant to engage outside help, except for very specific short-term needs. In the furniture industry, the industry interviews revealed also the opinion that small firms fail to acquire the information about innovation because they are not able to make use of it for their absorptive capacity is low (Kull, 2003). Export-oriented innovative wood companies use to a lesser degree R&D institutions, which could show the relative incremental development of their products and processes.

Companies with foreign ownership have chosen their mother companies as innovation source (the alternative was only available to companies with foreign ownership, and most of the innovative wood companies (72.4%) had at least some foreign ownership). Having foreign ownership increases the possibilities for choosing the innovation source from among public and private non-profit R&D institutions and universities. Since Estonian public and private non-profit R&D institutions are almost non-existent in the Estonian wood and forest field, the companies use the respective sources of foreign countries. The fact that foreign institutes in Finland and Great Britain are used for innovations was supported by the industry interviews (Botvinkina, 2003; Kuldkepp, 2003).

Variables that influence the results but are not risk-factors (i.e. confidence intervals of $\exp(B)$ are under 1 and this factor will decrease the odds ratio);

Variables that influence the results significantly or risk factors (i.e. confidence intervals of $\exp(B)$ are over 1 and this factor will increase the odds ratio).

Table 2. The results of innovation source choice models

	within firm	concern	suppliers	clients	competitors	consultants	universities	R&D institutions	conferences	fairs
Lturn	0.577*	1.414*	0.671*	0.184	0.295	0.213	0.075	-0.407	0.608*	0.969*
Export	3.093	0.822	1.253	0.302	1.878*	0.709	1.075	-3.461*	1.647*	1.635**
Foreign	-3.212	2.466*	0.034	0.645	-0.692	0.601	1.376**	3.094*	-0.703	-0.959
Innovcost	64.231*	0.476	0.288	17.259**	0.052	0.186	0.135	0.327	0.107	0.06
Specialists	6.329**	-1.875	-0.774	0.927	-0.306	0.214	1.068	-6.037**	-1.35	0.704
B risk	1.391*	0.258	0.813	0.5**	0.528**	0.671	0.759**	10.76	0.45	-0.26
B costs	1.081	0.596*	0.017	-0.098	-0.173	0.476*	0.054	-4.102	0.073	0.447
B labour	1.527*	-1.527	-0.173	0.688	0.202	-0.296	-0.096	-1.679*	-0.027	0.798*
B nofinance	-0.502**	-0.98	-0.124	-0.481*	-0.033	-0.087	0.01	-2.516*	-0.273	0.012
B law	-1.083*	0.766	0.325	0.248	0.513	0.325	0.522	1.152**	0.283	-0.628**
B consumers	-1.284	0.42	0.1	-0.067	-0.536	0.442	-0.448	-3.943	-0.555	-0.172
B org	-1.764	0.383	1.619*	0.142	0.809*	0.112	-0.46	2.601	0.645**	0.145
B knowmarket	1.052	0.208	-0.806	0.739*	-0.414	-0.775**	0.101	16.642	-0.374	-0.021
B knowtechn	-0.807	0.466	0.74	-0.38	-0.061	-0.39	0.188	2.625*	0.556	0.045
C supplier	5.129	-9.225	-1.668	-2.695	-3.066**	-7.16	3.26*	17.915	-0.096	-0.758
C competitors	0.092	-4.259	2.412*	-0.851	3.348*	1.392	0.99	-48.479	-2.625	-0.302
C concern	3.022	35.774	2.044	-2.337	-3.134*	-11.362	-12.88	-38.472	-2.536*	2.642*
C clients	-7.563	-9.12	-2.069	5.258**	0.594	7.537	-4.589*	-69.495	-0.487	-1.572*
C universities	9.706	5.162	0.965	-1.102	-0.75	-3.532	3.672*	22.001	7.403	2.051
C consultants	27.473	-10.349	8.246	14.298	-0.999	1.657*	-14.923	7.493*	3.442*	5.848
Northern	5.325	11.085	-1.253	1.078**	-0.779	-0.012	4.886	54.327	1.215*	1.242*
Northeast	14.485	4.361	-1.232	-2.31	-0.581	-29.556	-6.137	115.572	0.021*	2.433**
Central	-0.997	9.745	-2.111*	0.115	-1.512	-2.32**	3.194	29.209	0.012	-0.193

Table 2 continued

	within firm	concern	suppliers	clients	competitors	consultants	universities	R&D institutions	conferences	fairs
Southern	2.566	9.25	-1.336	0.649	-1.339	-1.986	4.573	2.448**	1.117	-0.636
ASC	-4.344*	-3.769*	-5.378*	0.615	-0.55	-2.14*	-3.925*	-1.878	-6.883*	-8.906*
Nagelkerke R2	0.452	0.435	0.379	0.241	0.307	0.142	0.409	0.585	0.375	0.392
-2LL	67.089	89.393	91.647	104.868	106.335	111.249	54.315	33.122	120.322	100.647

Risk factor

* Significant at 5% level

Non-risk factor

** significant at 10% level

As concerns regional aspects, one can see that companies in North- and North-Eastern Estonia (where also most of the largest wood sector companies are located) have relied more on conferences and fairs as innovation sources.

The companies in the wood sector that admittedly lacked qualified personnel for innovation, tended to choose more readily internal sources and fairs rather than R&D institutions as innovation sources. Such a result could be expected, indicating a generally lower level of absorptive capacity of the firms.

Lack of funds decreases the probability of being able to choose clients and R&D institutions as innovation sources. Organizational obstacles encourage firms to look for innovation information from their suppliers and competitors. Those companies, who claimed to have too little market knowledge, have a higher probability of choosing clients as innovation sources and those with too little technological knowledge look for information from R&D institutions.

One interesting finding is also, that having an innovation cooperation within the concern decreases the probability of using competitors as an innovation source – this seems to support the idea, that domestically-owned companies are working together in order to compete on export markets (higher share of export in sales increases the likelihood of choosing competitors as innovation source).

Conclusions and discussion

In general terms, the results of the paper coincide with the sector-specific use of innovation sources found by earlier work. The overall intensity of information use is lower in the Estonian wood sector than in the respective Finnish sector. Internal innovation sources predominate in both sectors with similar intensity. From among external sources, suppliers, customers and also competitors are important. As could be expected, the use of R&D institutions and universities as information sources was low, on the one

hand, because of presumably low absorptive capacity, and on the other, because of shortcomings in the Estonian educational system. Confirmation was found to the claim that larger and foreign-owned companies have better access to innovative information, but the companies in general claim to lack funds for using external innovation sources. The use of various external resources seems to be encouraged by cooperation agreements.

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9. THE AUTONOMY OF MANAGERS BY BUSINESS FUNCTIONS IN THE FOREIGN SUBSIDIARIES FROM TRANSITION COUNTRIES¹

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Abstract

The paper examines the autonomy of managers by business functions in foreign subsidiaries in Estonia compared with Hungary, Poland, Slovakia, and Slovenia. Using the method of factor analysis, the multidimensionality of autonomy was opened. Four factors of autonomy were obtained (technology, marketing, management, finance). Multivariate analysis indicated that the autonomy of managers in foreign subsidiaries is specific to the country, industry and business function. The level of economic development of the host country and the earlier beginning of the transition process affects the autonomy of managers positively. Estonian managers had significantly less autonomy in all their business func-

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tions than their Slovenian and Hungarian counterparts. Managers from the subsidiaries in high-technology intensive manufacturing sectors rely more on the corporate networks and were less autonomous than low-tech industries in all countries. The autonomy of managers was lower in performing the strategic business functions than in carrying out the operational functions such as personnel management and domestic marketing.

Introduction

In the last decade, foreign direct investments (FDI) have assumed an important role in the transition economies. This is particularly true about Hungary, but also in Estonia and other new EU member countries the relative share of foreign-owned firms has grown rapidly. Therefore in these countries a completely new group of managers has emerged in the entrepreneurial framework – the managers of foreign subsidiaries whose working environment is fairly different from that of the managers in the firms with domestic ownership. On the one hand, the managers of subsidiaries are entrepreneurs with their inherent abilities and motivation to succeed. On the other hand, the realization of their abilities depends heavily on the role assigned to their subsidiary in the internal network of a particular multinational company.

The aim of this paper is to analyze how autonomously the managers can carry out different business functions in the foreign subsidiaries in Estonia and four other new EU member countries. The research questions presented in the paper are based on the literature focusing on the development of subsidiaries and autonomy. The source of the empirical analysis of the paper is a survey done in 433 firms of five transition countries under the EU 5th Framework Project “EU Integration and the Prospects for Catch-Up Development in Central and Eastern European countries: The Determinants of the Productivity Gap”.

The current paper is structured as follows: the first section deals with the theoretical framework, including the development of the research hypothesis. Secondly, the research method and data are described. This is followed, in the third section, by the empirical analysis of the autonomy of managers in foreign subsidiaries by means of the principal component factor and multivariate data analysis. Finally; conclusions will be drawn about the heterogeneity of the autonomy of managers in subsidiaries.

Theoretical framework

The role of subsidiary management in the development of MNCs

There exists a substantial body of literature concerned with various aspects of multinational subsidiary management (for example, Birkinshaw and Morrison, 1995; Poynter and White, 1985; Roth and Morrison, 1992; Taggart, 1997). According to Paterson and Brock (2002), the research on subsidiaries has evolved over time. The focus in the beginning was on structure and strategy, whereas later the research became concerned with headquarter-subsidiary relationships and the role of subsidiaries. Recently researchers have been increasingly interested in the capacities of the managers in subsidiaries and their development. Following Birkinshaw (1997), a subsidiary is defined here as an operational unit controlled by a multinational company (MNC) and situated outside the home country. Two distinct views on subsidiaries could be discerned. According to the first one, a subsidiary is assigned a certain role by its parent MNC. The other approach is that the role may be assumed through the subsidiary's behavior (Birkinshaw, 2000). The latter approach particularly stresses the motivation and capacity building of managers of subsidiaries as an important factor affecting the subsidiary's role.

Referring to Taggart (1997), autonomy may be regarded as a decision-based process that evolves through bargaining between the centre and periphery in an organization. Thus, the autonomy of a subsidiary's manager is mirrored by its position in relation to the parent company in all business activities. Previous studies have attempted to explain the variations in subsidiary autonomy, which can be divided into MNC characteristics, subsidiary characteristics and environmental factors (see Björkman, 2003). The most recent literature overview and discussion about gaps in research in this area was given by Young and Tavares, 2004. Much less has been analyzed the impact of environmental factors on autonomy, especially the host country's role in providing opportunities for subsidiary managers to develop external networks and increase their autonomy through building their capabilities. In the following theoretical part a few most important factors influencing the autonomy of subsidiary managers will be discussed.

Corporate and external networks and the autonomy of subsidiary managers

According to literature, the degree of integration of a subsidiary in the MNC seems to be the most important factor affecting the autonomy of managers. The autonomy of subsidiaries depends critically on the existing capacities and their evolution. Andersson and Forsgren (1996) distinguished between external and corporate networks and relationships. They showed that the more embedded the subsidiary was within its external relationships via local demand, sourcing and links with the local innovation system; the less it was controlled by its MNC. On the other hand, stronger embeddedness within corporate relationships suggested a greater MNC control over the subsidiary (see e.g., the results of Hedlund, 1981; Garnier, 1982; Harzing, 1999).

Consequently, the more developed the country, where the subsidiary is located in terms of demand, existence of potential sourcing partners and the level of national innovation system, the higher

the likelihood that subsidiary managers can develop an extensive external network, improve different capacities and hence gain more autonomy. According to this approach, we can assume that those CEE countries that started the transition process earlier (Hungary, Slovenia) succeeded in providing more opportunities for subsidiaries to create external networks and are likely to have more autonomous subsidiaries than those countries that started their transition later (e.g., Estonia and Slovakia). In the framework of our analysis it is possible to put forward the following hypothesis about the effect of a country's level on autonomy:

Hypothesis 1. Managers of subsidiaries located in countries which started the transition process earlier have better capacities to develop extensive external networks and therefore have a higher level of autonomy than managers in those countries which started their transition later.

In the high-technology industries, corporate embeddedness in the form of intense and frequent relationships with suppliers, customers and R&D units plays a more important role than in low-technology industries. Consequently, it is logical to expect that in these industries the autonomy of subsidiaries is smaller. But on the basis of pertinent literature we can assume that the behavioral patterns of high tech subsidiaries in industrialized and transitional countries may differ. Birkinshaw and Hood (2000) found surprisingly that subsidiaries of leading-edge industries located in industrialized countries were more autonomous and more highly embedded in the local cluster than subsidiaries in other industry sectors. This could be explained by the strategy of MNCs to encourage their subsidiaries to use knowledge flows from the rich host country environment with developed national innovation systems. But we assume that in transition countries with relatively weak national innovation systems it is much more complicated for local subsidiaries to acquire knowledge from external networks. On the basis of the preceding discussion the following hypothesis was proposed:

Hypothesis 2: Subsidiaries from high-tech industries located in transition countries are more closely engaged in corporate networks and their managers have less autonomy than the managers of subsidiaries in low-tech industries.

Initiative and autonomy of subsidiary managers

A subsidiary takes initiative “with a view to expanding the subsidiary’s scope of responsibility” (Birkinshaw, 2000). In earlier works Birkinshaw (1996; 1997) identified several forms of subsidiary initiative – local, internal, global and hybrid market initiatives – and also indicated the conditions for these to be executed. According to Birkinshaw, high autonomy appeared important for local and global market initiatives, while low autonomy was associated with the internal market and hybrid initiatives. High parent-subsidiary communication was associated with the internal market and hybrid initiatives, while the reverse was true of local and global market initiatives.

A subsidiary managers’ initiative is closely linked with power creation. Power can be gained by having an ability or a capability or by possessing something with which it is possible to control somebody else. Firms differ in their ability to accumulate competencies and capabilities, which are rare, valuable, non-substitutable and difficult to imitate. Abilities and capabilities can be acquired and lost over time (Björkman, 2003). A manager from a subsidiary which is important to the MNC as a whole will have the potential to negotiate more with the headquarters than with subsidiaries of lesser importance. Therefore, through its negotiation power, an important subsidiary will be more autonomous than its less important counterparts. Furthermore, continuing the argument, subsidiaries that are able to outperform their corporate counterparts may have a higher degree of negotiation power than their counterparts with less impressive performance. The better a subsidiary is performing in comparison to other corporate units, the more autonomy its managers could enjoy. In the framework of

our analyses, we could use the productivity level as the proxy for the capacity of a subsidiary and can present the following hypothesis:

Hypothesis 3: The better a subsidiary is performing in comparison to other corporate units, the higher the autonomy of its managers.

Autonomy of subsidiary managers across the business functions

The autonomy of subsidiaries by business functions is a rather complicated area of research, which has produced conflicting views (see for detailed discussion Björkman, 2003). Hedlund (1981) stressed the idea that headquarters centralize issues of strategic nature and leave operational issues in the hands of subsidiary managers. More specifically, Hedlund found that finance is the most strategic issue and the most operational issues are about the organization and personnel. A similar idea was already mentioned earlier by Garnier, Osborn, Galicia and Lecon (1979), but in addition they discovered that a subsidiary's autonomy tends to be highest in marketing issues. The results from the Young *et al.* (1985) study of 152 foreign subsidiaries in the UK indicated that the most centralized decision areas were primarily financial (target ROI, dividend and royalty policies), together with marketing decisions concerning the markets supplied and the decisions on entering new foreign markets, and R&D and technology choice.

Edwards, Ahmad and Moss (2002) explained this outcome rather convincingly, saying that integrated issues are highly centralized whereas locally responsive issues are more decentralized. Financial issues are highly integrated and relevant to the whole MNC. Marketing is often directed towards the local market and hence domestic marketing issues could be decentralized. Personnel management depends on local legislation and consequently also requires local operation, which gives greater autonomy to the subsidiary in these questions. Several other authors like Martinez and Jarillo (1991); Harzing (1999) discovered that in local market-

oriented subsidiaries the managers tend to have greater autonomy. In general, subsidiary managers have greater autonomy in such decisions where they have superior information.

Hypothesis 4. The functional autonomy of subsidiary managers is the lowest in strategic issues such as finance, and the highest in operational areas including personnel management and domestic marketing.

Research method

Description and representativeness of the sample

In 2001–2002, a special questionnaire was sent to the managers of the foreign subsidiaries in Estonia, Hungary, Poland, Slovakia and Slovenia as an integral part of the work in the EU 5th Framework Project: “EU Integration and the Prospects for Catch-Up Development in Central and Eastern European countries: The Determinants of the Productivity Gap”. The return rate was 19.7%, or 433 questionnaires. The largest number of responses (35.5% of all) came from Poland, followed by Hungary (18%), Slovakia (16.6%), Slovenia (16.6%) and Estonia (11.5%). By industries, the biggest share of responses was in the electrical and optical equipment branch (16.4% of the total), followed by metals and metal products (14.1%), food, beverages and tobacco (10.2%), non-metal mineral products (9.0%), chemicals and man-made fibres (8.5%), rubber and plastic products (6.9%), and clothing and textiles (6.5%) (see detailed info about the sample in Männik *et al.*, 2004). The representativeness of the sample was analyzed from the position of size, ownership and industry. The distribution of the firms was rather well balanced (see comparative tables and detailed explanations in Männik *et al.*, 2004).

As the following analysis also requires some proxy about the levels of economic development of these five sample countries and differences between the types of the industry sectors (see expla-

nation in the next section), the value added (in % of the total value added in Table 1) and the productivity level are shown by the countries and industry groups (see Table 2).

Table 1. The role of industry sectors in the creation of the total manufacturing value added, in % of total value added.

Industry group	Slovenia (2001)	Hungary (2001)	Slovakia (1999)	Estonia (2001)	Poland (2000)	EU15 (2000)
High-tech	9.6	8.4	1.6	1.8	2.4	13.7
Medium – high-tech	29.5	29.7	27.1	13.1	24	30.9
Medium – low-tech	25.2	26.8	20.5	21.2	29	24.4
Low-tech	35.7	34	31.2	58.2	44.4	31.0
Not identified	0	1.1	19.6	5.7	0	0
TOTAL	100	100	100	100	100	100

The authors' calculations based on the UNIDO Statistical database and Slovenian National Statistics; Eurostat 2003.

The structure of the manufacturing industries of the countries analyzed in the paper varies considerably. The role of high-tech industries in the production of manufacturing value added ranges from 9.6% in Slovenia down to 1.8% in Estonia and 1.6% in Slovakia. At the other end, the low-tech sectors were giving 58% of value-added in Estonia and 44% in Poland. Comparing those five CEE countries with EU15, it appears that the structure of value added in the manufacturing sector in Slovenia and Hungary are much more converged toward the EU.

The Table 2 presents a brief overview of the productivity of the manufacturing industries of the countries analyzed. Slovenia and Hungary are leading by value added per employee in all categories of industries. The table indicates that medium-high tech industries have much higher productivity than high-tech industries.

Table 2. Value added per employee in the manufacturing industries of five accession countries (in. thousand USD annually)

Industry group	Slovenia (2001)	Hungary (2001)	Slovakia (1999)	Estonia (2001)	Poland (2000)
High-tech	18,849	14,750	5,290	6,897	20,508
Medium – high-tech	23,485	30,446	8,395	10,198	13,360
Medium – low-tech	18,210	18,383	8,029	9,746	14,954
Low-tech	15,870	10,128	6,970	7,334	12,063
TOTAL	18,993	18,753	7,687	8,263	13,451

The authors' calculations based on the UNIDO Statistical database and Slovenian National Statistics.

In case of Hungary, the difference is 2.1 times and in Slovenia 1.2 times. A similar pattern was also found in Slovakia and Estonia. Poland was the only country where the high-tech sectors had the highest productivity.

Method of analysis and variables

In the current paper the autonomy of subsidiary managers is measured by their business functions. In the survey, the managers were asked about the decision-making process between the local affiliate and the parent company. The question asked was: Which business functions are undertaken: a) by you alone, (b) mainly by you, (c) mainly by your foreign owner, or (d) only by your foreign owner? From the survey, answers were received about 13 business functions². The answers to the questions were later standard-

² Business functions: 1) product development, 2) process engineering, 3) determining the product price, 4) supply and logistics, 5) accounting and financial operations, 6) investment finance, 7) market research, 8) distribution, sales, 9) after-sale services, 10) advertising, 11) marketing, 12) operational management, 13) strategic management and planning.

ized so that 0 indicated full autonomy in decision-making (taken by you alone) and 1 complete lack of autonomy.

The analysis was carried out in three stages. The first stage involved principal component factor analysis of the group of 13 business functions resulting in the internal structure of the autonomy. After analyzing the factor scores (see also Männik *et al.*, 2004), four new statistically independent factors were identified: FACTMARK – related to the following business functions: determining the product price, market research, distribution and sales, after-sale services, advertising, marketing; FACTTECH – including product development, process engineering, supply and logistics; FACTMAN – including operational management, strategic management or planning, and FACTFIN – including accounting and finance of operations, investment finance.

In the second phase, the analysis of variance (ANOVA), and on the third stage the multivariate analysis of variance (MANOVA) were used to identify significant differences among the four groups of the factors and to distinguish country- and industry-specific features in CEE manufacturing subsidiaries. In relation to factor groups, two dummies for a country (variable: DCOUNTRY) and industry type (DACTIVITY) were used as categorical dummies in the ANOVA and MANOVA tests. In the previous analysis also features of firms (size, ownership) were examined, but this is not relevant in the current paper (see *Ibid.*).

The industries were grouped into four types of sectors: high-tech, medium-high-tech, medium-low-tech and low-tech using 3-digit NACE level classification of manufacturing industries according to the OECD classification³.

³ High-tech sectors: 24.4, 30, 32, 33, 35.3; medium-high-tech: 24.0–24.3, 24.5–24.7, 29, 31, 34, 35.2, 35.4–35.5; medium-low-tech: 23, 25, 26, 27, 28, 35.0–35.1; low-tech: 15, 16, 17, 18, 19, 20, 21, 22, 36, 37 (NACE industry codes, 2003; European Innovation ...).

Results and discussion

Country-specific aspects of the autonomy of subsidiary managers

Table 3 presents the means for categorical variables by four factor components of autonomy. The lower value in Table 3 reveals higher autonomy in this country or industry.

Table 3. Means for the categorical variables by four groups of functions (ANOVA)

Categorical variable	FACT-TECH	FACT-MARK	FACT-MAN	FACT-FIN
Country:				
Slovenia	0.31	0.34	0.25	0.18
Poland	0.40	0.26	0.45	0.29
Hungary	0.37	0.33	0.34	0.22
Slovakia	0.37	0.50	0.39	0.31
Estonia	0.35	0.32	0.37	0.37
Total average	0.37	0.34	0.38	0.27
Industry:				
High-tech	0.43	0.39	0.37	0.25
Med-high-tech	0.39	0.37	0.40	0.28
Med-low-tech	0.36	0.30	0.38	0.26
Low-tech	0.33	0.33	0.37	0.28
Total average	0.38	0.35	0.38	0.27

Note: a lower value shows higher autonomy of subsidiary managers.

The ANOVA test was performed in order to analyze the statistical significance of differences in mean ranks between countries and industries by four factor groups describing different aspects of autonomy of managers. The ANOVA test proved significant differences in mean ranks across countries by three factors of autonomy – in marketing (F-stat: 7.617, $p = 0.000$), management (10.234, 0.000) and financing (9.273, 0.000) (see detailed infor-

mation in Table 4). The highest level of autonomy in all the four aspects covered was had by Slovenia, followed by Hungary. This outcome is in line with the first hypothesis that subsidiaries located in the countries which started their transition process earlier have better opportunities for developing extensive external networks and therefore the managers there enjoy a higher level of autonomy.

Slovenia and Hungary lead among the transition economies by sophistication of their domestic demand, development of local suppliers, and also by their national innovation systems.

Another obtained result was surprising. Namely, it turned out that FACTFIN on average shows the highest autonomy (0.27 in Table 3) in all the five transition countries compared with other component factors. It partly contradicts to our Hypothesis 4 about the functional autonomy of managers being the lowest in strategic issues including finance and highest in the operational areas including domestic marketing and personal management. Clearly the most autonomous by FACTFIN are managers in Slovenia (0.18) and Hungary (0.22). The managers of subsidiaries in these countries are also the most autonomous by the management component. This is already more in line with our Hypothesis 1 and shows that in these two countries the local capacity and the level of development of the environment have favored the autonomy of subsidiary managers. Estonian subsidiaries having the lowest financial autonomy (0.37) also supports Hypothesis 4.

Cross-country comparison shows the lowest management autonomy among the managers from the subsidiaries in Poland (0.45 in Table 3). It appears that marketing autonomy is relatively similar across all the countries except Slovakia with extremely low autonomy in this area (0.50). This reveals that subsidiaries in Slovakia are highly dependent on their parent company in terms of marketing, which may be associated with the role of Slovakian subsidiaries in the corporate internal network. Slovenian subsidiaries are highly export-oriented and produce intermediate products, which

requires close corporate links. In Poland, with a much bigger local market compared to the other four CEE countries and orientation of subsidiaries to the domestic market, the managers in local subsidiaries have achieved the highest autonomy in marketing, while management autonomy has the lowest scores among all of the countries.

This outcome confirms Hypothesis 4 about the functional autonomy of subsidiaries being the highest in the operational areas including domestic marketing. It is an interesting result, which may refer to the complexity of management of the subsidiaries in Poland, but also indicate the still low level of managerial skills in these subsidiaries, which did not allow the headquarters to give the local subsidiaries more autonomy. In this respect, the combination of high autonomy in marketing and low autonomy in management in Poland partly supports our Hypothesis 3 about the role of subsidiaries' power in obtaining more autonomy.

Industry-specific aspects of the autonomy of subsidiary managers

The above analysis compared autonomy across countries and industries, measuring all variables individually. In order to understand the inter-variable influences on the autonomy of managers in subsidiaries, an integrated analysis was performed. Table 4 presents the results of the analysis with three categorical (country, industry, firm size) and four dependent variables (component factors describing different aspects of autonomy). The main focus lies on the joint effects of country and industry features.

If an integrated analysis is used, which combines the industry and country categories, the sector-specific aspects start to play a significant role in determining the autonomy of managers by the technology (p -value 0.000 in Table 4) and management autonomy (p -value 0.020). The autonomy of managers in the field of technology depends significantly on the size of the firm involved (SME,

large), as well as on the industry and country (p-value 0.009 in Table 4).

The autonomy of managers by the technology factor (FACTTECH) related to activities in product development, process engineering, supply and logistics significantly differs between countries and industries. Figure 1 presents the estimated marginal means of FACTTECH in five countries in relation to industries.

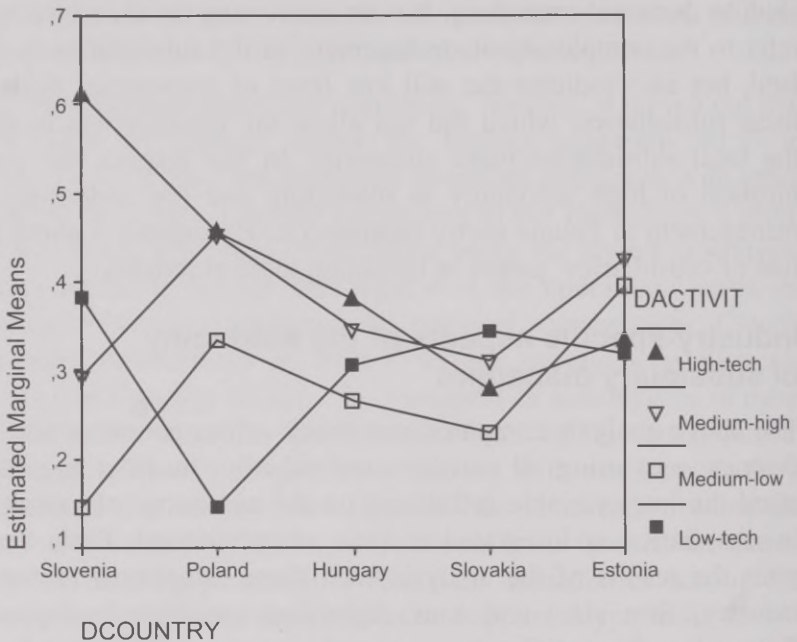


Figure 1. Estimated marginal means between the country and industry dummies by component factor FACTTECH (the low value indicates high autonomy).

Table 4. Statistically significant means for categorical variables (country, industry, firm size) by four groups of functions (MANOVA)

Integration between variables	FACTTECH	FACTMARK	FACTMAN	FACTFIN
Country		F-stat: 7.188 p-value: 0.000	F-stat: 2.243 p-value: 0.064 (sign. 10% level)	F-stat: 5.035 p-value: 0.001
Firm size		F-stat: 5.223 p-value: 0.023		
Country* Industry	F-test: 3.133 p-value: 0.000		F-stat: 2.051 p-value: 0.020	
Firm size* Industry	F-test: 3.932 p-value: 0.009			
Country* Firms size* Industry	F-test: 1.880 p-value: 0.054			

Figure 1 shows that the autonomy of subsidiary managers by FACTTECH is most industry-dependent in Slovenia and Poland. The Slovenian subsidiaries have the biggest variation in autonomy between the four types of industry sectors. Referring to the earlier results, of all the countries Slovenia had the highest autonomy in strategic business functions, especially in relation to management and financing. The combined analysis of country and industry – revealed that despite their appropriate level of skills in management and finance Slovenian high-tech sector subsidiaries must rely on corporate networks and can enjoy less autonomy than subsidiaries in other industry sectors. In the area of technology and production (FACTTECH), their autonomy is the lowest in the high-tech and low-tech sectors and highest in the medium-high and medium-low-tech sectors. The managers' low autonomy in high-tech subsidiaries supports our Hypothesis 2 about subsidiaries from high-tech industries being more closely engaged in corporate networks and having lower autonomy than subsidiaries in low-tech industries. But the Slovenian results indicate that the autonomy of subsidiaries by industries had a curvilinear character, as besides the high-tech also low-tech industry subsidiaries had low autonomy. This result could be explained by the low negotiating power of these subsidiaries, which is reflected by the low productivity level in this group (see Table 2). The important role of productivity level as the proxy for a strong negotiating power of subsidiary management is further supported by the fact that the medium-high-tech and medium-low-tech sectors had the highest productivity level.

Managers in the low-tech sector are much more autonomous than managers in the high-tech sector, particularly in Polish subsidiaries. This may indicate that the technology used is rather simple and standardized, requiring little intervention from the mother company. Moreover, we concluded from the earlier analysis that Polish subsidiaries had high autonomy in marketing and low autonomy in management. Consequently, Polish low-tech indus-

try's high autonomy reflects its strong orientation to the domestic market. The final conclusion of this analysis is that the autonomy of subsidiary managers is highly industry-specific and also reveals the importance of subsidiary power (in our case measured as productivity) for autonomy.

Looking at managerial autonomy (see FACTMAN in Figure 2), the largest diversities between autonomy across four areas of business functions appear to be in Slovenia and Poland and by comparison with all industry groups inside medium-high-tech and medium-low-tech subsidiaries by five countries. From Figure 1 it was evident that Poland diverges from the others in terms of very low managerial autonomy. Now Figure 2 more clearly reveals that in general managerial decisions are made by the parent companies and particularly in medium-tech sectors.

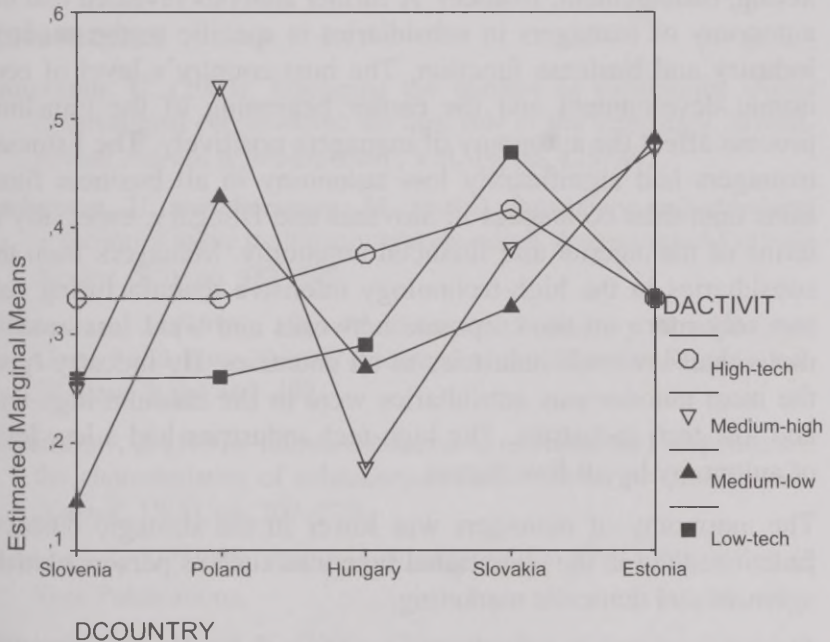


Figure 2. Estimated marginal means between the country and industry dummies by component factor FACTMAN.

Summarizing the results of the above analyses of the country and industry effects, it can be said that the level of economic development is positively related to autonomy, especially in medium-tech sectors, which are the most productive sectors in all the countries analyzed.

Conclusions

The current paper analyzed the autonomy of managers in the foreign subsidiaries in Estonia and four other new member countries of the EU by different business functions.

Using the method of factor analysis, the multidimensionality of autonomy was opened. We were able to distinguish between four statistically independent factors of autonomy (technology, marketing, management, finance). A further analysis revealed that the autonomy of managers in subsidiaries is specific to the country, industry and business function. The host country's level of economic development and the earlier beginning of the transition process affect the autonomy of managers positively. The Estonian managers had significantly less autonomy in all business functions than their colleagues in Slovenia and Hungary, especially in terms of managerial and financial autonomy. Managers from the subsidiaries in the high-technology intensive manufacturing sectors rely more on the corporate networks and were less autonomous than low-tech industries in all countries. By industry types the most autonomous subsidiaries were in the medium-high-tech and low-tech industries. The high-tech industries had a low level of autonomy by all four factors.

The autonomy of managers was lower in the strategic business functions than in the operational functions such as personnel management and domestic marketing.

The lower autonomy of subsidiary managers (e.g., in Estonia, Slovakia) itself does not necessarily mean that the impact of the sub-

subsidiaries on the local economy is weak or negative. To the host country it is much more important how the capacities of the subsidiary and its managers are developing and how closely they are linked with the host country's industrial clusters. There is the question to adapt appropriate tacit knowledge and also material assets existing in the multinational company to local specifications and to contribute to its own innovation potential. In the current stage of development of transition countries and firms it might be reasonable to have a low rate of autonomy in areas with shortage of specific knowledge and higher rates of autonomy in selected fields already having the appropriate tacit knowledge. Depending on the shortage of the knowledge, the managers in subsidiaries should be more or less active in their relationships with their headquarters.

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10. ESTONIANS' VIEWS ON GERMANS' AND RUSSIANS' NEGOTIATION BEHAVIOR: THE ENTREPRENEURIAL PERSPECTIVE

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Abstract

Our study explores how Estonians perceive Germans' and Russians' negotiation behavior in the framework of Hofstede's cultural dimensions. Negotiations are a means for entrepreneurial communication and as such they are influenced by the partners' cultural backgrounds. Estonians were interviewed about their views on Germans' and Russians' behavior during negotiations. The results show that some perceptions are consistent with Hofstede's findings, while there are differences as well. Our findings, along with other issues, bring up implications for entrepreneurs and three aspects are discussed. Limited experience and the perception of differences may lead to generation of stereotypes among entrepreneurs. Therefore, education and thorough investigation would be beneficial for acquiring efficient negotiation behavior. Entrepreneurs can sustain the integration of the Russian population in Estonia if they are more informed about their partners' cultural characteristics.

Introduction

Entrepreneurship is a sensitive area in respect of culture. Culture can be said to permeate entrepreneurial motivation as well as communication. While the former focuses on the issues that apply

to people who are interested in devoting themselves to entrepreneurial activities, the latter touches the areas affecting how entrepreneurs are able to execute their ideas. This chapter addresses communication and its cultural issues because social and geographical mobility are important aspects of entrepreneurial behavior. More specifically, we will single out one particular kind of business communication – negotiations – for the subsequent analysis.

The manner how participants in negotiations treat each other is very much influenced by their cultural background which provides them with an understanding of their partner's role from various perspectives. Therefore, the cultural approach to negotiations may reveal some general issues for business people. It is an important aspect to be mentioned in connection with Estonia, where the practice of international negotiations is about 15 years old. Estonian business people have already gained some first-hand experience of international negotiations, which can be analyzed in order to understand some culture-specific features and draw some implications.

Estonia and its social and economic history have been influenced by many countries and cultures, among which Germany and Russia occupy a special position. Additionally, Estonia has been strongly influenced by different other cultures. For example, distinguishing between political, economic and cultural spaces of influence, Vihalemm (1997) indicates which countries have dominated the societal space of Estonia in different periods. In 1918–1940, Estonia's political space was influenced by Germany and Russia, its economic space by Germany and Great Britain, and its cultural space by Germany, Finland, and Sweden. After World War II, Estonia was part of the Soviet Union, which left its imprint on all the three dimensions. This circumstance has generated interesting aspects for analyzing the cultural impacts on many activities by means of Hofstede's framework.

Culture can be characterized by the following four dimensions (Hofstede, 2001). *Power distance* reveals to what extent power and hierarchical relations are considered to be essential for a particular culture. *Uncertainty avoidance* explains whether tense and vague situations are tolerated or avoided and to what extent. *The individualism-collectivism* dimension shows whether the interests of an individual or a group are more important. The fourth dimension is *masculinity-femininity*, which shows to what extent culture is dominated by such masculine values as orientation towards achievement and competition.

In the light of the abovementioned aspects, the aim of this article is to draw implications for entrepreneurs by way of studying Estonians' views on Germans' and Russians' negotiation behavior using Hofstede's framework of cultural dimensions.

The introduction of this paper is divided into two main sections, the first one describing the main concepts of the study – negotiations and culture – as well as their potential interrelationship from an entrepreneurial perspective. The second section summarizes German, Russian and Estonian cultural characteristics according to Hofstede's cultural dimensions, exemplifying the rationale of the empirical approach used in our research. The third section of the paper presents an empirical analysis, which is based on the interviews conducted with Estonian business people who have copious experience with representatives of the German and Russian cultures. Finally, some implications are drawn for the entrepreneurial perspective.

The role of negotiations for entrepreneurs and the impact of the cultural context on negotiations

The role of negotiations is often underestimated by entrepreneurs; instead they tend to have an attitude towards negotiations as something that one has to get quickly over with. But as the scope of enterprise rapidly increases, the necessity for communication

between entrepreneurs also grows. And if good results are wanted, one must also understand the role of negotiations. It is important to have a systematic negotiating process to prevent hasty decisions that in the future may have no impact. That presupposes thorough knowledge of the negotiation partner, a well-planned negotiating process and explicitly expressed purposes.

Entrepreneurs lack information about how to conduct constructive negotiations; the topic is not well developed yet. For example, Baker (2004) introduced these issues when characterizing the started discussion for providing a theoretical background to rock and roll entrepreneurship and organizational communication.

Due to the globalization of economy and enterprises, understanding the role of negotiations is getting more difficult. An important factor that comes into play is culture, and understanding cultural differences makes the negotiating process rather complicated. In the course of cross-cultural negotiations, different beliefs, religions, social expectations and backgrounds bounce together. It means that conflicts and misunderstandings are easy to occur, which in turn may lead to critical situations or even failure of the negotiations. Hawley and Hamilton (1996) have shown that in a multicultural world it may frequently happen that entrepreneurs find themselves in the role of a negotiator between the contradictory values of their own cultural system and those of the dominant world.

Culture plays an essential role in negotiations; this is especially important in international business when East and West meet at the negotiating table (Adair, 2003). Information processing is one of the reasons for different understandings of the negotiation process. Weber and Hesse (1998) have shown that people's differing perception is one of the factors that lead to cultural differences in the situation of risky decision making. Usunier (1991) also underlines the role of cultural differences in business negotiations by analyzing perception time.

Cultural background is one indicator that determines how the negotiator sees the whole negotiating process – what are its purposes, what role is played by the relationships with other parties, how important is formality, etc, and on the whole all that underlies the choice of strategy for carrying out the negotiations. All in all, it can be said that intercultural negotiations are represented as a function of differences between parties with respect to preferences on issues and negotiation strategies (Brett, 2000). Figure 1 suggests that when the strategies negotiators bring to table clash, the negotiation process is likely to be less efficient, and agreements are likely to be suboptimal. But differences do not always mean failure, they also mean opportunities. In Figure 1 “integrative potential” is the key factor – if cultural differences are taken into consideration, a smart negotiator can shape a suitable attitude and accordingly choose a suitable strategy that will lead to the results satisfying both parties. This means that a successful negotiation process does not assume the elimination of negative side-effects, but also their skilful utilization in one’s advantage.

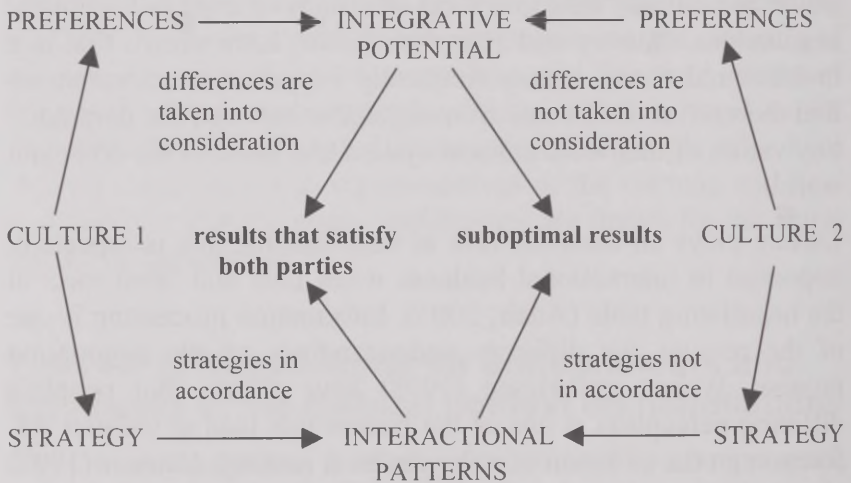


Figure 1. A model of inter-cultural negotiations (Brett, 2000, modified).

Sometimes the participants in negotiations are partially cooperative or protagonists, seeking to optimize their own gains. Studying the patterns of understanding one's partners' cultural background is particularly relevant when investigating negotiations, because culture affects the way people communicate. Entrepreneurs usually act on the basis of intuition (see, for example, Greenbank, 2000), which has shown that the role of the cognitive aspects of entrepreneurial behavior is substantial. For example, Allison, Chell and Hayes (2000) suggest that those owner-managers who are, in practice, successful in identifying and exploiting the opportunities for growth and capital accumulation (i.e., successful entrepreneurs) are more intuitive in their cognitive style than the general population of managers. We position our study into this context and aim to get some elements of understanding with respect to negotiations from the Estonian perspective, because everyday practices and interaction are sometimes influenced by intuitively created stereotypes.

Russian, German and Estonian cultural characteristics in Hofstede's framework

Russia is one of the most important countries in the world's political and economic life because it has enormous natural resources as well as educated population. This vast country has attracted many investors and has changed a lot during the last decade, though many partners have experienced significant cultural unfitness when cooperating with Russians (Fey and Denison, 1998; 2003; Fey and Nordahl, 1999). As a matter of fact, Russian entrepreneurial activities are greatly influenced by personal relationships. Puffer (1994) and Kets de Vries (2001) also note that friendship affects Russians' business dealings: "While Americans and northern Europeans are more task- than relationship-oriented, Russians need to develop relationships in order to successfully accomplish tasks." (Kets de Vries, 2001).

The four dimensions of Hofstede show that Russians (Table 1) have a very high level of uncertainty avoidance (Hofstede, 1993). That means that Russians are not comfortable in unfamiliar situations. They prefer highly structured negotiations with similar procedures. If the negotiation partner does not act as Russians expect them to act, they might no longer trust the partner. Usually Russians presume, for example, that the partner from the West has similar experience and the same expectations as they have (Snavelly *et al.*, 1998). And if they find out it is not so, it may become a big problem and encumbrance during the negotiations.

Table 1. Hofstede's cultural dimensions for Russians, Germans and Estonians.

Hofstede's dimensions	Russians	Germans	Estonians
Power Distance	Very high	Low	Average
Uncertainty avoidance	Very high	High	Average
Individualism	Average	High	High
Masculinity	Low	High	Average

Sources: Hofstede, 1993; Vadi and Meri, 2004.

The indicator of power distance is likewise very high when speaking of Russians. It means that in a Russian enterprise, control and decision-making are centralized and negotiators from very high positions are involved. Russians assume that their partners are from high positions as well; they even hardly hear out people of low authority. On the other hand, Russians have an average level of individuality – relations do not matter so much that they could somehow hinder the negotiation process. So conflicts do not necessarily mean failure, being rather a natural part of negotiations.

The indicator of masculinity for Russians is low which means that results are not achieved by applying power, problems can be

resolved peacefully. Russians are willing to make compromises in some circumstances or even concede to requirements. (Bollinger, 1994)

The social and economic ties between Estonia and Germany have grown significantly after Estonia regained independence. Many entrepreneurs see German markets as an attractive target for their business but several areas of cooperation are still underdeveloped. There are many reasons behind this unused potential, including communication issues. Andrijevskaja and Vadi (2004) illuminate some of them by comparing factors forming organizational culture in Germany and Estonia. For example, they suggest that in Germany communication is mostly through group representation, while in Estonia bottom-up communication is rare, and most communication is direct by nature. Another aspect is that in Germany we can meet multiple patterns of communication, but in Estonian newly-started free market economy top-down communication still prevails (Andrijevskaja and Vadi, 2004).

Research done by Hofstede shows that Germans (Table 1) do not emphasize hierarchy and authority – their indicator of power distance is low (Hofstede, 1993). They are rather tolerant during the negotiating process; they also accept opinions of parties from low position. So control and decision-making are probably decentralized in German enterprises and power does not play an important role in organizations, while all the other indicators are rather high. Uncertainty avoidance shows that Germans like structure and order in negotiations and that should prevent not knowing about the future. So they may act aggressively when problems arise during negotiations, and from that point on they will mistrust the partner.

The indicator of individualism suggests that Germans prefer to perform individually; the group is not competent to make decisions. The relationship with the negotiation partner is not important, Germans even avoid close relationships. Due to that, a negotiator is not irreplaceable; when choosing people for negotiations, their competence makes a difference, not relations.

Germans have a high level of masculinity: men are deemed to be more competent, self-confident and persistent. The conflicts arising during negotiations are resolved very stoutly; it hardly ever happens that compromises are made.

The preceding part of the article expanded upon Hofstede's cultural dimensions for Russians and Germans and was based on Hofstede's assessment. So it does not mean that Estonians have the same understanding of these two nations. Different surveys suggest different results; there is no research that holds well in all kinds of circumstances.

Below we will make an attempt to characterize Estonians in a similar framework as Hofstede characterized Germans and Russians (Table 1). Our information is based on the study by Vadi and Meri (2004) where they present the position of Estonia in Hofstede's framework by comparing Estonians with Italians and Egyptians. Table 1 reveals that Estonians are in between Russians and Germans in respect of power distance and masculinity, differ from both of them in respect of uncertainty avoidance, and resemble Germans along the dimension of individualism. This could be explained by the evolution of Estonian culture – it has absorbed influences from both German and Russian culture.

Empirical study of the German and Russian cultural backgrounds in the negotiating process

To involve the empirical part, interviewing was used as a research method. To carry out the interviews, such questions were compiled (Appendix 1 and 2) that could determine Hofstede's cultural dimensions for Russians and Germans¹. The analysis of the results

¹ The empirical studies were conducted by using unlike measurement tools because they were parts of different surveys. The results were combined for this chapter because it enables presentation of issues of

is directed towards finding Germans' and Russians' positions in Hofstede's framework and interpreting these categories from Estonians' perspective. The authors' intent is to find out how the respondent reflects on the dimension under discussion and in this light the answers will be interpreted in the framework of the cultural dimensions. In other words, the main focus is on exploring how Estonians perceive their partners' cultural background.

Eight entrepreneurs who in the recent years have had or are still having business relations with Russians were questioned. In order to elicit opinions about Germans, nine persons who had expertise in communication with Germans in the context of negotiations, were interviewed. The list of respondents is presented in Appendix 3.

Interviews with different business people helped draw some conclusions about certain aspects of German and Russian cultures in the negotiating process. The interviewees' thoughts and opinions provided a colorful illustration to the cultural impact of Germans and Russians that in turn referred to different cultural dimensions. Based on the interviews, the two nations were subsequently compared according to Hofstede's dimensions. There are also given some comments of the respondents that illustrate how they perceived any particular cultural dimension.

Power distance

Power distance is very high in the case of both nations. The position of negotiators is very important and therefore formality plays a great role. But there are also differences between the two cultures.

For Germans the formality of the negotiating process depends significantly on the position of the opposing party in the hierarchy. A. Sadam, M. Lublo and A. Talijärv accentuated that the negotiation process should be the more formal and considered, the

negotiating behavior more concisely than by giving an overview of a single study.

higher the positions of the participants (negotiation parties). But that does not eliminate the possibility that the opposing party may have a lower position. The negotiations can then be less formal but it is acceptable.

For Russians, on the contrary, the positions of the negotiation parties are so important that they hardly agree to negotiate with people who have lower positions. Russians think that the higher in the hierarchy the partner is the more competent and trustworthy he/she is. For example, T. Alt brought out many cases when he as the owner of the company and Supervisory Board had to explain to his Russian partners that the chairman of the management board is actually much more competent and trustworthy than he himself is.

The similarity between Russians and Germans lies in their addressing systems where titles and esteem are very important. Russians accept familiarity more readily than Germans. Their addressing formally depends on their relations with the opposing party. If the negotiating process goes well for them, they are more eager to have less formal relations. For Germans it takes time to get used to familiarity, for example, the negotiation parties must be acquainted for a long time before they go over to first name terms. "People may work together for years, sharing the workplace, having negotiations, but still address each other as Herr or Frau" says S. Puust-Mumme, meaning that informality can be totally unacceptable in some cases.

Collectivism/individualism

It was rather hard to determine how collectivistic Germans and Russians are. The people who were questioned gave different answers. The results in this dimension were average for both nations. It means that collectivism or individualism depend on a particular situation.

Most of the interviewees agreed that if the negotiation process is going well and the Russians want to do business with the opposing party for a long time, a good relationship is more important than a quick result. T. Sepp believes it makes a great deal of difference what purposes Russians have and what are their real interests and altogether what is useful for them. But usually the negotiating process ends with an informal meeting and then Russians are very hospitable. Mainly they are interested in quick results and for that purpose develop good relations.

For Germans, informal negotiations are also important, but in contrast to Russians, they do not let informality into the actual negotiating process. K. Koger, A. Sadam, M. Lublo and E. Rebane share this opinion. Digression from the subject is not acceptable and therefore the quick result is the main issue. Temporizing occurs when Germans want to check everything before making a decision, because when the decision is made, it is semidiurnal. "They are rather bureaucratic, coordinating the decision with different people and organizations," said Puust-Mumme.

Masculinity/femininity

The results of the two surveys show that Germans and Russians are masculine nations. Russians are very rigid and do not give up their opinions, even if another opportunity is more useful. P. Riim recollects from his experience that usually Russians have two or three standpoints that they practically never give up. But it is possible to make compromises if a Russian negotiator sees a benefit from it, "it means you have to be pliant yourself," says K. Kask. So it is not excluded that Russians make any conceding.

Germans are also very stubborn, but according to R. Strandberg's experiences, if they see that the other person is right, they are willing to concede. Frankness and splenetic comments are also very common among German negotiators. They do not like joking; the negotiation process must be relevant, consequential and persuasive.

Uncertainty avoidance

As seen from Table 2, Russians and Germans are both very cautious, especially Germans. They do not like unexpected situations that they cannot control, especially when they do not have enough information. That is why Germans examine their negotiation partner thoroughly before the actual meeting.

Russians are not so exhaustive, but they also prefer to avoid problems. They are very critical when the opposing party makes a mistake, although the results of the survey showed that Russians are often troublemakers themselves. For example V. Käärik and T. Sepp have a lot of experiences that affirm that Russians are usually late for meetings and fail to comply with deadlines.

Germans, on the contrary, are punctual. They do not like obscurity; that is why it is normal that translators are involved in the negotiating process to guarantee that both parties understand each other perfectly. For example, silence makes Germans very uncomfortable, because they think that they are not understood. But in M. Lublo's opinion, it can also mean that the opposing party is having doubts and that in turn makes Germans very cautious.

Both Russians and Germans like to have all contracts and agreements in writing, so the risk would be minimal. Such a formality is very important and makes them much more confident.

The abovementioned tendencies are summarized in Table 2 and refer to the answers given by the respondents in the following part. Table 2 expressively demonstrates that the results differ a lot from Hofstede's estimations. It can be seen how similar, in Estonians' opinion, Russians and Germans appear to be in the negotiating process. Even though the two cultures have developed in different conditions, they still have had a comparable impact on Estonians. The reason here may come from history, because Estonia was occupied by both Russia and Germany during World War II. So Estonians might have similar expectations of both nations.

Table 2. Comparison of Russians and Germans along Hofstede's cultural dimensions in the context of negotiations from the Estonians' perspective

Dimension	Germans	Explanation	Russians	Explanation
Power distance	Very high	Negotiations are very formal; titles are important; attitude depends on professional status – the higher in hierarchy, the more formal	Very high	The position of the parties in negotiation is very important; titles matter
Uncertainty avoidance	Very high	They have good knowledge of the partner before the negotiations; silence arouses suspicion; agreements in writing are important	High	The structure of negotiations is not very important; agreements in writing are significant; critical attitude towards the problems caused by the opposing party
Collectivism	Average	Decisions are made rather quickly; agreements are very fixed; no deviations from the subject are accepted	Average	The quick result is important, but through dependable relations; informal talks have a significant part in the negotiation process
Masculinity	High	Very strict; humor and negotiations do not belong together; there are no concessions in important questions	High	The higher the position, the more irrefutable opinions; it is possible, but complicated to achieve compromises

Discussion and implications

The surrounding cultural environment is most likely to influence those aspects of business that involve relations between individuals (e.g. management policies, leadership styles, communication patterns) and least likely to affect machine technologies. We have demonstrated that culture plays a role in the evaluation of one's partners' negotiating behavior. In our paper, we analyze how Estonians perceive German and Russian cultures through the lens of Hofstede's framework of cultural dimensions. We also explain some manifestations of the culture of the two above-mentioned ethnic/cultural populations.

The results will be discussed from the entrepreneurial perspective, considering three aspects – the potential role of stereotypes, the content of entrepreneurial education, and the role of entrepreneurs in the wider social context of this country.

First, differences in the perception could be a source of stereotypes. This complex subject-matter area may generate stereotypes of culture or, as Zarkada-Fraser (2001) says, "pictures in our heads" that serve as cognitive tools and as the reason for shaping a static conception: the elimination of boundaries and definition of "other-ness" requires the processing of information that is not available and even if it is available, it appears to be too vast to process." Stereotyping is the process of categorizing an individual as a member of a particular group (i.e. ethnicity) and assuming that the characteristics attributed to the group apply to the individual. Indeed, it helps in dealing with negotiations but stereotypes can lead to false deduction of information because social stereotypes about the nationalities are often based on little personal knowledge. Once stereotypes get accepted, it is difficult to change them. Our study enables entrepreneurs to compare their own experiences with other peoples' understandings about the negotiation partners and thus possibly avoid stereotyping and

accept the differences. It will make entrepreneurs more flexible and innovative in their communication.

Second, the training programs for entrepreneurs would include knowledge and exercises that accommodate them with cultural sensitivity, thus supplementing their intuition. Greenbank (2000) has suggested that training should attempt to reduce the types of bias that are inherent when he has found that owner-managers tend to combine informally absorbed information, heuristics and other short-cut methods in a more intuitively-based approach to decision-making. The relevance of cultural training is also demonstrated by Miles (2003) when he gives advice that Western businessmen can follow if they want to be effective in negotiations with their Chinese counterparts.

The results show that some aspects that Estonians have perceived in their negotiations partners' behavior are in accordance with the cultural dimensions proposed by Hofstede, while there are also some differences. These findings enable us to give some specific ideas for those who are going to participate in the negotiations where the cultural background has an important role. Indeed, more empirical research is needed for the development of effective training programs because our study shows that each ethnicity may have own perception of others and therefore the framework and data according to this construct have other meaning than that proposed by Hofstede (2001).

Third, entrepreneurs could serve as agents of integration in Estonia when we provide them with knowledge how to negotiate with Russians. Here the issue is the ethnic diversity in Estonia, where Estonians formed about 68% of its population, while 25–26% of the population belonged to the Russian-speaking minority (Russians, Ukrainians, and Belarussians) in 2000. Their feeling of being the majority turned to the feeling of being a minority after Estonia regained independence. We propose this aspect in the same vein as Dyer and Ross (2003) analyze communication in small ethnic enterprises. They mention some advantages of direct

communication for ethnic small business, including the development of social ties, especially for those who find themselves in a minority position in society. Thus, if Estonians and Russians are able to understand each other better in entrepreneurial activities, it will benefit society as a whole as well. Accordingly, if we provide entrepreneurs with knowledge how to negotiate with Russians, their contacts will be more efficient, and entrepreneurs who are at the forefront in the use of new opportunities may disseminate positive attitudes to the rest of the business society.

The suggested implications are more related to policy-making issues than to activity guidelines stipulating how Estonians could negotiate with Germans and Russians. It is naturally a limitation of our study that we were not able to offer clear advice for entrepreneurs. Obviously, the variation among entrepreneurs is higher than our results have revealed and therefore we are afraid of generating stereotypes. The second limitation derives from the criticism towards Hofstede's approach, which argues that the dimensions are too broad and the indicators do not reflect the overall understanding of the whole nation at the same time (see, Clark, 2003; Sondergaard, 1994). This serious aspect and a detailed investigation could open up better opportunities for working out concrete guidelines for those who want to hold effective negotiations with Germans and Russians. Nevertheless, this study opens a door to further explorations – it would be both necessary and interesting to test our findings.

In order to be competent in social interactions, entrepreneurs must know how the cultural background impacts on the decisions made in the process of negotiations, or in other words, within a social context.

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Appendix 1. The measurement tool for the Russian culture

Uncertainty avoidance

- How important is fixed structure and formality of the negotiating process for Russians?
- How would a Russian negotiator act when a problem arises (postponement of a meeting, unpunctuality of the participants' or other unforeseeable issues)?

Power distance

- What kind of attitude do Russian business partners have towards the negotiator's position (professions of participants etc.)?
- How do Russians regard the opinion of the participants having a lower position in the hierarchy?

Masculinity

- How rigidly do Russians hold on to their opinion?
- How would you comment on the expression "The goal celebrates the measure" when speaking of Russians?

Collectivism

- What is more important for Russians – a quick result or a good relationship with the opposite party?
- Which part of the negotiating process do Russians pay more attention?

Extra questions

- How many negotiations have you had with Russians?
- Have there been any interesting situations during the negotiating process with Russians? What?

Appendix 2. The measurement tool for the German culture

Collectivism

- How do you characterize Germans' speed of decision-making?
- What kind of attitude Germans take toward excursus during the negotiations?
- How does Germans regard interruption (discontinuation) of conversation?
- How do you characterize Germans when keeping their word?
- What kind of room placement Germans prefer?

Power distance

- How do Germans react when you address them by first names?
- What do Germans prefer and in what extent – formal or informal style during negotiations?

Masculinity

- How flexible Germans are in the negotiations?
- How blunt-spoken Germans are in their sayings?
- What kind of role-plays humor during the negotiations?

Uncertainty avoidance

- How do Germans safeguard themselves against misunderstandings?
- How venturesome is a German negotiator?
- How important are written contracts for Germans?
- What kind of attitude do Germans have towards their partner's silence?

Appendix 3. List of respondents

Interviews about Russians' behavior in the context of negotiations:

1. Andres Kask – OÜ Cantori – member of the board,
2. Rain Sepp – Jippii Balti – regional manager,
3. Priit Riim – OÜ Primus PR – executive,
4. Toivo Alt – AS Saarek – chairman of the council,
5. Toomas Sepp – OÜ Saare Dolomiit-Väo Kivi, Saaremaa – production manager,
6. Erki Lifljandski – OÜ Estinvait – executive,
7. Vahur Käärrik – AS Cista – executive,
8. Kaido Schmidt – OÜ Meritreid – executive.

Interviews about Germans' behavior in the context of negotiations:

9. Ave Sadam – Pärnumaa Environmental Service – forestry specialist,
10. Urmas Lõhmus – East AS – chairman of the council,
11. Tarmo Kulmar – University of Tartu, Faculty of Theology – Professor of Comparative Theology, PhD (theol.),
12. Andres Talijärv – Estonian Association of Forest Industries – managing director,
13. Monika Lublo – Department of Agriculture, Estonian Agricultural University, Faculty of Forestry – chief specialist,
14. Reidi Strandberg – Rödl & Partner OÜ,
15. Kristo Koger – Puitex AS – chairman of the board,
16. Eve Rebane – Department of Environment, Faculty of Forestry – arch specialist,
17. Sirje Puust-Mumme – Estonian Chamber of Commerce and Industry – manager of the department of international relations.

11. TOWARDS FLEXIBLE WORK: CHANGES IN EMPLOYERS' AND EMPLOYEES' BEHAVIOR

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Abstract

Flexibility is an important medium for successful operation on the market. The question is: Do Estonian entrepreneurs and organizations take advantages of flexible work and employment patterns, and if so, then in what forms? Concerns for flexibility are in the centre of attention of many organizations, especially where flexible work is concerned. However, it cannot be reduced to this alone since the permanently changing economic conditions, development of technological and managerial knowledge as well as growing subjectivization and individualization of work expand the demand for different forms of flexibility. Flexibility helps reduce the cost of labor force, increase the operating time and allows different actors to achieve individual goals. This article examines the implementation of flexible work and employment in Estonia, and shows that local entrepreneurs and organizations, being flexible on the one hand, keep to the traditional patterns of employment and work on the other.

Introduction

Changes in the entrepreneurship environment are influenced by the trends of global development and the local processes where flexibility plays an important role. Primarily, at the beginning of

the 1970s, flexibility was examined with regard to transformation of economy and changes in social and occupational structure (Piore and Sabel, 1984), but starting from the 1990s, the emphases have been on competition and individualization, accompanied by the emergence of a knowledge worker (Bauman, 2002; Tilly and Tilly, 1998). In this sense, speaking about flexibility means speaking about changes in work. This brings one to the point that flexibility has various dimensions. On the one hand, it means labor market flexibility, including changes in work performance and required qualification, but also refers to interaction between an employer and employee, including labor contracts and working time arrangements. On the other hand, flexibility is the result of growing individualization, or as U. Beck has put it, "institutionalized individualism" (2001) and in this sense is applied to the action of different actors.

There is one more reason for stressing the interdependence of the ongoing changes in work and flexibility. Work is considered to become a separate task rather than a permanent process. In this case, by comparison with the previous decades, workers are in a position where their responsibility for their work performance increases. This transforms them into "labor entrepreneurs" as C-G. Heidegren marks with reference to M. Moldashel and G. G. Voss (2004). This issue is very important since practice shows that it is not uncommon for former "labor entrepreneurs" to turn into real entrepreneurs and establish their own firms. According to our survey, nearly 43% of the persons who were interviewed had considered establishing their own business, and 9% of them were sure that they would some day do that.

The success and efficiency of entrepreneurs depend on their ability to adjust their strategy to the conditions in which they operate. As competition on the market of goods and services is permanently intensifying, and work is becoming more uncertain and at the same time more flexible, then in this situation an entrepreneur has two options: either to be flexible or to quit from the market.

The main question to be answered is: do entrepreneurs take advantage of the existing forms of flexibility? This article examines flexibility in the work sphere focusing, on the one hand, on working time arrangements and on the other, on work performance. The article has two goals: firstly, to show the diversity of the work and labor market flexibility and its practices in Estonia, and secondly, to trace the preferences of employers.

Hypotheses and methods

The most proper way to analyze the spread of flexible work and employment is to combine the statistical and survey data. This study is based on the data of the Estonian Labor Force Survey presented in the Labor Force yearbooks. Operating with these data provides an insight into labor market flexibility in general, while the data concerning employers' practices have been obtained in the course of research into work transformation. All the – conclusions are drawn at the significance level of $p < 0.05$.

The work survey was conducted in spring 2001 in Tallinn. The sample included 532 persons, predominantly at the age range 20–35; 15% of the interviewees were 36–40 years old. They were all representatives of new professions (sales, project, and personnel managers, IT and PR specialists, etc.). Although 25% of them worked in organizations belonging to the central or local governments, their evaluations and attitudes were of great importance for they provided an insight into the work sphere in general.

An analysis of the usage of flexible work and employment patterns is a kind of diagnosis, indicating efficient use of labor force and equipment, and a possibility to survive on the market. The hypothesis is that entrepreneurs apply flexible forms very selectively: being flexible on the one hand, they are conservative on the other.

Flexible work and employment

Demand in flexible work and employment depends on both the market situation and the individual preferences of employers and employees. In any case, in advanced industrial countries flexibility is considered to be “a taken for granted stereotype of work” (Ransome, 1999). On the whole, the reason why employers apply flexible patterns of work derives from their need to reduce expenses and produce goods and services as cheaply as possible, preserving, at the same time, the high quality of products in order to remain competitive on the market. The latter means that their concern is also qualification of the hired labor force. If such practice is an established norm in developed countries, it seems quite reasonable for Estonian entrepreneurs and other employers to follow suit and use at least some types of flexible work time arrangements compared to the standard ones.

However, even part-time employment which is so widely spread elsewhere is not at all common in Estonia. Although at the beginning of this century Estonia activated its efforts in adjusting its work environment to the global trends in the work sphere, the overall number of part-time jobs has not changed very much. On the contrary, the share of persons with part-time jobs has even decreased from 9.2% to 8.5% (Labour Force, 2001; Labour Force, 2004). In 2003, in Estonia 8.5% of the employees had part-time jobs, while in the EU countries the average number was 18% (Employment ..., 2003). Such moderate spread of part-time jobs indicates that neither employers nor employees are interested in this type of work time arrangement. But if workers evidently do not want part-time jobs due to their lower rate of remuneration by comparison with full-time jobs, then employers seem to prefer to have full-time employees for two important reasons. Firstly, such labor may be more loyal and stable and not so eager to change an employer whereas part-timers as well as workers with other non-standard time arrangements are more likely to do that. Employment of part-time workers may also lead to a decrease in work

commitment. As to loyalty, then to some extent it is programmed into a worker's behavior since the most common way of getting a job is by using social networks, which presupposes some loyalty. So Estonian employers prefer to give workers full-time employment even if it means working less time than the normal number of working hours, due to employers' reasons; usually it means lack of orders and contracts (in Estonia "normal working hours" means 40 hours per week) (Pavelson and Karotom, 2004). Moreover, preference for full-time jobs derives from the situation on the labor market and qualification of workers. The interviewed persons considered their educational level and obtained skills to be quite high and were sure that they could work in different fields of activity and might comparatively easily find a new job. In this situation, employers are cautious about offering part-time employment, especially if they need a top specialist.

The second reason regards part-time jobs themselves. Generally, they are considered to be "bad jobs" (Kalleberg *et al.*, 2000), which means unqualified jobs or jobs requiring low qualification. At the same time, employers prefer to employ well qualified, educated labor. This is also supported by the survey data: 80% of the interviewees agreed with the statement that in their firms good education is very important even if the job itself can be performed by a worker with a lower qualification. According to the survey, 25% of the interviewed workers admitted that their qualification was higher than their job required and only 9% confessed that their tasks actually required better knowledge than they had. These data indicate that sometimes workers may be overpaid. It seems that educational credentials are important in the hiring process and less relevant where fulfilment of work tasks is concerned.

Working time flexibility allows employers to hire labor for a limited period of time. Temporary and seasonal work is usually used in case market demand lasts for a limited period. In 2003, 2.5% of employees in Estonia had temporary work, while in 2000 that number had been somewhat bigger – 3.4% (Labour Force, 2004;

Labour Force, 2001). 0.7% had seasonal jobs as a type of temporary work (*Ibid.*).

Temporary and seasonal jobs are common in construction, catering, agriculture, and entertainment business, i.e. in all these cases when an employer cannot manage without hiring additional workforce for carrying out certain tasks and orders. Obviously, in this situation an employer who needs unqualified workers is in a better position. Hiring qualified labor with previous experience may cause difficulties, since this group prefers full-time secure employment. However, high levels of unemployment and the emergence of new but low-paid jobs in the service sector impacts on the behavior of unemployed people. According to statistical data, only 27% of the unemployed were looking for full-time job only (Labour Force, 2002).

Scheduling of work during the day/week is also regarded as flexible work time arrangement. In 2003, compared to 2000, the share of workers working after 6 p.m., and/or on Saturdays or Sundays decreased (Labour Force, 2004; Labour Force, 2001). On Saturdays and after 6 p.m. worked approximately 4% less workers than in 2000 (*Ibid.*). But this did not always mean implementation of cheap types of work. It could be shift or overtime work, which helps extend exploiting capacities and utilization time, and also reducing labor costs, but not hiring of workers for non-standard work.

Among the traditional patterns of working time arrangements, overtime work is still favored by the majority of local entrepreneurs and employers. According to statistics, the share of persons working overtime has grown from 19% in 2000 to 22% in 2003 (Labour Force, 2001; Labour Force, 2004). The fact that employers prefer to prolong working hours instead of hiring additional labor speaks of their wish to use the existing full-time labor who is more loyal. Overtime work is more spread in construction, but its implementation in other industries, according to the working time survey provided by the Estonian Institute of Marketing,

derives from the fact that only 47% of workers manage to do their work within the limits of normal working time (40 hours per week).

It seems that overtime work is the form that is spread in all companies regardless of their ownership type. In the survey conducted among the representatives of new professions, the situation did not vary by the type of ownership of a company. However, the companies belonging to foreigners used overtime work less frequently than the locally owned companies. It is obvious that employers keep to full-time job contracts and standard work time arrangements.

Cheap work

Part-time, temporary jobs and non-standard time arrangements are cheaper and usually require less qualified labor. The experience of industrial countries shows that persons with part-time jobs are also usually the first to be dismissed if the situation on the market deteriorates, and the employer wants to reduce the labor costs (Tilly and Tilly, 1998; Kalleberg *et al.*, 2000). In Estonia, like in all industrial countries, the pay for part-time jobs is also smaller than that earned at full-time jobs. In 2003, the average difference between the hourly gross wages for part-time and full-time jobs was 24% (Wages, 2003; 2004). At the same time, it varied quite a lot between the counties, being 32% in Pärnu and Harju but as little as only 2–4% in Tartu and Valga (*Ibid.*).

Differences in hourly wages and salaries are not only due to the location of companies, but also derive from different ownership types. Foreign owners are more likely to pay less for part-time jobs than other owners. In 2003, as shown by Table 1, a part-time worker in a privately owned company belonging to an Estonian person received on average 76% of the hourly wage of a full-time worker, while in a company belonging to a foreigner this indicator was 73%.

Table 1. Average hourly gross wages and salaries by the kind of owner of an enterprise, in 2003 (kroons)

Kind of owner	Average hourly wages		
	total	full-time employee	part-time employee
State	44.14	44.67	35.36
Local government	32.83	33.32	28.71
Estonian owner	36.44	36.85	27.99
Foreign owner	51.53	51.94	38.09
Other	–	–	–
Total	39.53	40.05	30.26

Source: Wages and Salaries, 2003; 2004.

In 2003, as shown by Table 1, a part-time worker in a privately owned company belonging to an Estonian person received on average 76% of the hourly wage of a full-time worker, while in a company belonging to a foreigner this indicator was 73%. Although the difference in wages and salaries was not very big, it indicated that local owners had bigger labor costs than their foreign counterparts. In 2000, the corresponding numbers were 79% and 75% (Wages and Salaries, 2001). It means that although the differences have remained, the Estonian owners are also trying to reduce their labor costs and proceed by differentiation between the hourly wages of part- and full-time employees.

Another reason for stressing the differences in the level of wages and salaries by ownership type regards the competitiveness of Estonian entrepreneurs. Considering wages and salaries, an Estonian employer is competitive only with local governments as employers. In this situation, employers face the already familiar problem: how to hire qualified labor for a lower remuneration? Even though employers practice the so-called “envelope salaries”¹ they still experience hardships with being competitive with other employers.

¹ Envelope salary – part of salary (wage) paid to an employee from which no taxes are paid.

Conclusions and discussion

Flexibility is a response to structural changes and increasing competition on the market, but also a response to consumers' behavior, who being differentiated by incomes wants to vary by the consumed goods and services as well (Piore and Sabel, 1984). This requires a worker whose qualification and skills accord with the implemented technologies and consumer's demand. In this situation, employers have limited options. In order not to increase labor costs, they usually look for labor that has already been qualified and trained. The survey showed that workers with a broad educational profile and skills are preferred as they can carry out a wide range of work tasks if necessary. But employers also need loyal workers. Using informal hiring networks, which is the most common way of hiring workers in Estonia, employers provide themselves with loyal labor, but this may limit their opportunities to implement flexible work and employment. The interviewees confessed that they could work in different fields of activity and would seize a chance to get a better job. Taking into account that in expanding industries it is not so hard to find a new job, employers are quite careful in using flexible forms of work.

It seems that in such a situation an employer may overpay or underpay a worker, as piecework does not require a high qualification. If workers are underpaid, then they may look for another employment since they have invested in education and want to convert it into economic capital. In any case, such behavior of employers may be justified, but not where the reduction of production costs is concerned. It is cheaper to implement flexible employment models and thus avoid overpayment or underpayment and underemployment of the existing workers. Hiring additional labor with non-standard work arrangements and differentiating much more between the wages and salaries paid for part-time and full time jobs, an employer may avoid extra expenses.

The statistics and survey data indicate emerging changes in the work sphere. At the same time, entrepreneurs and other employers underestimate the impact of competition on working time and employment arrangement, and often consider their employees' loyalty superior to other issues. But this, with no doubt, will reduce local entrepreneurs' competitiveness.

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12. CHOICE OF MEASURES FOR PERFORMANCE MEASUREMENT MODELS ON THE EXAMPLE OF SUCCESSFUL ESTONIAN COMPANIES

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Abstract

This paper examines the relationship between the usage of the performance measurement model (PMM) and successful development of a company. The quantitative part of the research was conducted by the author on the basis of a questionnaire survey of 72 Estonian small and medium-sized companies whose managers were asked about their performance measures. The goal was to reveal what was important for them and what kind of data they needed. The main results of the survey are the following:

1. Managers consider it extremely important to monitor financial accounting indicators.
2. The managers of successful companies value more highly observations of their customers' cost- and profitability-related data, as well as non-financial, quality-related indicators directed away from the company.
3. Important needs for information, notably regarding the degree of customer satisfaction and the characteristics of competitors, are not satisfied.

Introduction

The amount and quality of information available to managers of any organization is a good barometer of organizational health. Relevant information allows a firm to effectively describe and implement its strategy, guide employee behavior, assess managerial effectiveness, and provide the basis for rewards. (Malina and Selto, 2004; Simons, 2000)

A competitive success factor of the industrial era was mostly characterized by the management of tangible assets. Today, however, it has become important to manage intangible assets such as services, innovation, flexibility and knowledge (Speckbacher *et al.*, 2003; Balcom *et al.*, 1997). Moreover, companies are becoming more dependent on the environment. Fierce competition and globalization make it essential for companies to start to influence environmental elements and react as fast as possible to the environmental changes that cannot be affected. (Lebas, 2000)

According to contingency theory, the efficiency of any accounting system depends most of all on its ability to react and adapt to changes both inside the company and in its environment (Haldma and Lääts, 2002). Over about twenty years, the scope of management accounting has significantly broadened, now including both financial and non-financial measures (Kaplan and Norton, 1996; 2001a; Ittner and Larcer, 1998; Brignall and Modell, 2000; Vaivio, 1999). In addition, recent studies have more often started to stress the need to involve qualitative data in the managerial accounting information system (Ittner and Larcer, 1997; Gordon and Steven, 1999; Hoque and James, 2000; Kaplan and Norton, 2001b). This all-embracing conception of management control goes along with the reaffirmation of the behavioral aspect of management control systems (Antony *et al.*, 1992) and of their contribution to organizational change and learning (Bourguignon, 2004; Speckbacher *et al.*, 2003; Ittner and Larcer, 2001). PMMs are comprehensive models of firms as a system reflecting organiza-

tional knowledge of the relations among various value-chain performance measures. Reportedly, many organizations have created PMMs that model performance relations among key value-chain activities and valued outcomes. (Malina and Selto, 2004)

Organizational learning theory by Nonaka and Takeuchi (1995) and Senge (1990) predicts that successful firms create strategic advantages by dynamically learning to use their resources effectively. Accounting interpretation of current management theories is that firms create and maintain strategic advantages or positions by efficiently creating, deploying, and using the performance-based management control system. (Malina and Selto, 2004) The present paper empirically examines the relationship between the usage of the financial and non-financial data and successful development of the company.

Recent studies into the use of accounting information

Almost 80% of managers consider annual accounts to be very important documents (Ramos, 2000; Carsberg *et al.*, 1985; Barker and Noonan, 1996). As a rule, an income statement is valued more highly than a balance sheet in the management process (Ramos, 2000). Financial accounts are traditional and people are used to them. Although the financial measures are highly valued and used by managers, the managerial accounting literature also points out problems and threats. (Merchant, 1998; Johnson and Kaplan, 1987; Haldma and Lääts, 2002; Mendoza and Bescos, 2001).

Managers have become more aware of the changes based on new business models and environment. Their opinions indicate customer satisfaction, loyal personnel, product quality, service reliability, sales price, and research and development to be the most essential criteria for determining value. 95% of the respondents considered customer satisfaction important and 80% though loyal

personnel to be important. (Boulton *et al.*, 2000; Groot, 2000). Mezas and Starbuck (2003) reached the conclusion that managers' decision-making is based on the reports results that reflect internal processes. At the same time, research has found that the strongest dissatisfaction is related to the outward environment information – customers and competitors (Mendoza and Bescos, 2001).

Therefore it can be said that critical success factors are known, however, not always measured. The reason for this as seen by the managers is the lack of a satisfactory assessment and measuring system, previous failed attempts to measure these indicators, and high costs of measurement and assessment. (Groot, 2000; Boulton *et al.*, 2000; Bhimani, 2000; Barbato *et al.*, 2000; Israelsen *et al.*, 2000).

Recent research investigating the interrelationships between business success and the use of non-financial indicators has found that companies which use non-financial indicators in their performance measurement system (Ittner and Larcer, 2003; 1997; Hoque and James, 2000) share the following features:

- Significantly higher assets and capital productivity,
- A strong market position or attempts to improve it.

With regard to changes taking place in the business environment and models, there has emerged a requirement by the managers for accounting system that would reflect all important aspects of today's business environment.

Recent studies into the use of accounting information by Estonian companies

Several surveys carried out in Estonia confirm that financial accounts are valued highly by managers (Haldma and Lääts, 2002; Haldma *et al.*, 2003; Hammer and Karilaid, 2002). Haldma

and Lääts have listed the following reasons for this (Haldma and Lääts, 2002):

- In the planned economy era, companies had no need to develop managerial accounting systems;
- The initial stage of the market economy era brought dramatic changes into financial accounting and the latter became more focused;
- Managers' and financial specialists' insufficient knowledge of and experience in managerial accounting.

Research results show fast managerial accounting development within Estonian companies in the late 1990s. 74% of the respondents from the biggest Estonian companies admitted that changes had occurred in their companies' managerial accounting systems in 1996–1999. These changes mostly meant improvement of the cost accounting system. It has been found that strong competition and training programs had a positive influence on these developments. (Haldma and Lääts, 2002).

The results of the surveys also show that major Estonian companies' managerial accounting is more oriented to functional subdivisions and product performance than observing the performance indicators of customer groups. (Haldma *et al.*, 2003). Therefore companies tend to focus more on their internal processes and relevant accounting instead of assessing outward effects.

The survey carried out by Hammer and Karilaid in 2002 studied the use of financial, non-financial and complex indicators by major Estonian companies. The most important measures in performance measurement decision-making were profit and its growth, turnover and its growth, market share, customer satisfaction, and cash flow (Hammer and Karilaid, 2002). In general, the managers said they were planning to focus on measuring customer and employee satisfaction, while profit and its growth, turnover and its growth, and liquidity ratios were among the measures which companies would be using less in the future. (Hammer and Karilaid, 2002).

The question about what criteria could be used for choosing a performance measurement method received responses such as “simple and understandable”, “simple from the viewpoint of owners”, “operative and objective”, “data availability”, etc (Hammer and Karilaid, 2002).

The present survey is more similar to that carried out by Hammer and Karilaid than to the survey conducted by Haldma and Lääts, because it includes financial, cost accounting and non-financial indicators. It differs from both of the abovementioned surveys because the present research sample represents small and medium-sized companies.

Objectives and methods of the research

The present research set the following tasks:

- To analyze the usage of financial and managerial accounting indicators by Estonian managers;
- To analyze linkage between business success and usage of financial and non-financial indicators;
- To analyze the relationship between business success, satisfaction with the current accounting information and additionally required information.

The empirical data of the present paper were drawn from the survey carried out in autumn 2002. The survey involved managers of 72 Estonian small and medium-sized companies. 100 questionnaires were sent out, 75 of which were returned (75%). Three had not been filled out in accordance with the requirements and had to be left aside. Such business sectors as wholesale and retail sale, production and services were represented (Table 1). In case of seven questionnaires, unfortunately, it was impossible to identify the field of activity.

Table 1. Companies by business sectors

Business sector	Number of companies	Companies (%)
Wholesale	25	34.8
Retail sale	16	22.2
Production	15	20.8
Services	9	12.5
Not identified	7	9.7

Source: Compiled by the author.

The questionnaire contained both open and closed questions and involved the following areas: 1) Financial indicators (net profit, revenue, amount of the balance sheet) change last year and the number of employees. 2) Financial and managerial accounting indicators collected and evaluated in managerial decisions. 3) Identify lacking accounting indicators.

The research analysis used typological, analytical and combined grouping, while the statistical analysis used one- and two-dimensional analysis and frequency analysis.

To determine a company's success, the parameters included questions about sales turnover, amount of the balance sheet, and profit change in the recent period. The responses were coded as follows: sales turnover, amount of the balance sheet, and profit growth were marked with "1", and the indicators' decrease with "-1"; the profit gained last economic year was denoted by "1" and loss by "-1". For calculating a company's success parameters, the total of each company's value scores was found. On the basis of the calculated success parameter, the companies in the sample were divided into two groups: successful and less successful.

Successful companies are those whose success parameter is between two and four. This group consists of 44 companies (61%), 35 (79.5%) of which showed profit in the last economic year, while eight failed to do so (Table 2). Profit growth was stated by

39 respondents of this group (88.6%), turnover growth by 40 respondents (90.9%), and balance volume growth by 29 respondents (65.9%). 26 managers (59.1%) of the companies in this group said that they had subdivisions.

Table 2. Responses by success parameters

Indicator	Profit			Profit growth			Turnover growth			Balance volume growth		
	1	0	-1	1	0	-1	1	0	-1	1	0	-1
Marking	1	0	-1	1	0	-1	1	0	-1	1	0	-1
2-4	35	8	1	39	4	1	40	4	0	29	15	0
1 or less	17	5	4	1	19	6	6	16	4	4	21	1

Source: Compiled by the author.

Less successful are companies whose success parameter is 1 or less. This group comprises 26 companies, 17 of which gained profit in the last economic year (65.3%). Profit growth was shown by one respondent (3.8%), turnover growth by six respondents (23.1%), and balance growth was admitted by four (15.4%).

In order to analyze the use of financial indicators from the income statement the following were chosen: net profit, revenue, cost of goods sold, staff costs, other operating expenses, administrative expenses and distribution costs. As indicators from the balance sheet were included – cash holdings, accounts receivable, inventories, accounts payable, tax and salary liabilities. The research involved seven non-financial indicators that can be divided into two: indicators derived from financial statements, such as stock turnover, debtor days, and indicators not directly related to financial statements (delivery period, market share and customer satisfaction).

The questionnaire ran a question about the necessary indicators that were not included in the company information system. It was an open question and a respondent could express his/her opinions.

All the answers were analyzed by the author and divided according to their contents into five groups:

- Satisfied,
- Lacks analysis of current data,
- Needs additional data about the environment (competitors, market, etc),
- Lacks detailed costs and analysis of company's segments,
- Needs more frequent reporting.

Results

The use of financial indicators

According to the survey, the most highly valued financial indicators drawn from the income statement were revenue, net profit, staff costs, while those drawn from the balance sheet were accounts receivable and cash (Table 3). 93.1% of the respondents ranked revenue as the highest, while for 83.3% the most important indicator was net profit, for 66.7% – staff costs and for 72.2% – accounts receivable.

Table 3. The most highly valued financial indicators

Indicator	Rate of significance (%)
Revenue	93.1
Net profit	83.3
Accounts receivable	72.2
Staff costs	66.7
Cash	65.3

Source: compiled by the author.

Next, the difference in the observation of the income statement indicators of successful and less successful companies is presented. There appears to be a slight variation between staff costs

and other operating expenses (Figure 1). These indicators are highly valued by 70% of successful company managers and by nearly 50% of the less successful company managers.

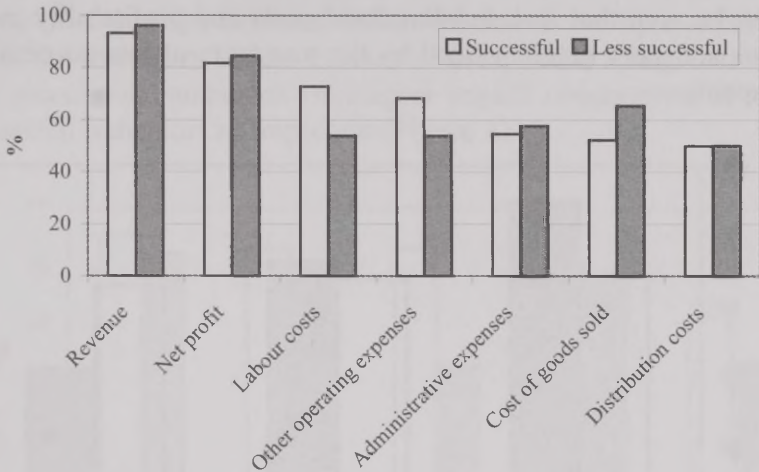


Figure 1. Assessment of the significance of income statement indicators by successful and less successful company managers (in %). (Compiled by the author)

Compared to successful companies, less successful companies' managers consider observation of the cost of goods sold as more important. Therefore successful companies' managers pay more attention to observing those costs that are more likely to be influenced by managerial decisions, whereas operational costs are more valued by less successful company managers.

The use of management accounting financial indicators

95% of the companies involved in the study have an accounting system that embraces various segments of the company. Regarding observation of management accounting indicators, nearly 70% of the respondents considered company subdivisions and product

indicators to be a very important source of information, whereas 60% valued customer-related information.

Comparing the use of the financial indicators of management accounting by successful and less successful companies (Figure 2), it can be seen that their subdivisions' costs and profitability indicators are more highly valued by the managers of less successful companies.

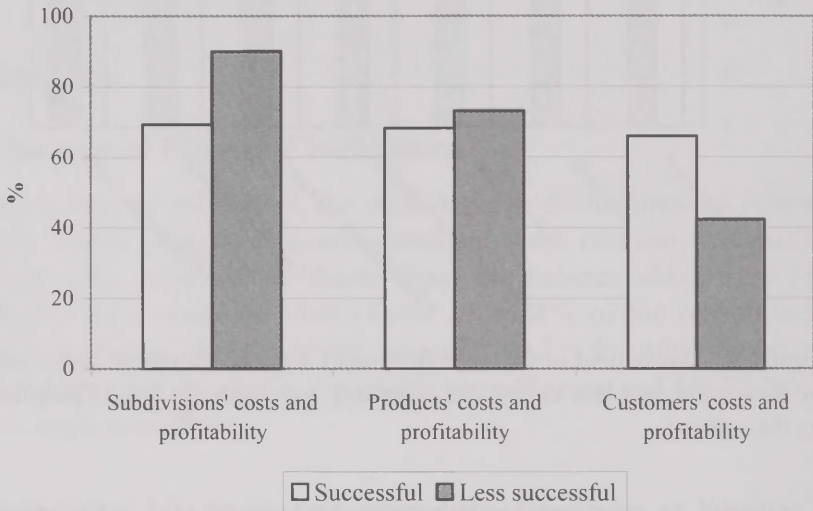


Figure 2. Successful and less successful managers' assessment of the significance of financial indicators in management accounting (in %). (Compiled by the author)

The managers of successful companies, on the other hand, consider customer-related costs and profitability indicators to be more significant. The variance between the two is nearly 20%.

The use of non-financial indicators

19.4% of the respondents failed to consider any of the given non-financial indicators important. The indicator ranked highest was

the observation of stock turnover (44.4%). Customer satisfaction, delivery period and debtor days were important for nearly 37% of the respondents, while market share was valued by 28%.

An analysis of how the managers of successful and less successful companies use non-financial indicators shows that by comparison with the managers of less successful companies, a larger number of successful companies' managers regard observation of non-financial indicators as important (Figure 3).

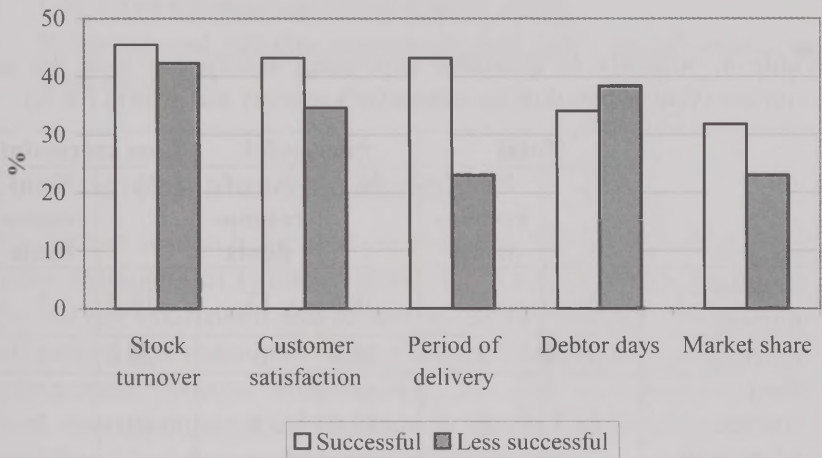


Figure 3. Assessment of the significance of non-financial indicators by successful and less successful company managers (in %). (Compiled by the author)

The differences are most significant in case of delivery period, customer satisfaction and market share. These are the indicators, which have outward orientation and also reflect quality.

Additional data required by the managers

Questions about the need for additional data were answered by 22 respondents (31.4%) (Table 4). It turned out that successful company managers were more active in sharing their opinions

about dissatisfaction and lack of data than less successful company managers. 17 managers from the successful company group (38.7%) expressed their opinions, while only five less successful company managers (19.2%) answered this question.

From all the respondents answering the questions only seven (31.8%) were satisfied with the information received from their accounting system. Successful company managers were more satisfied (6 respondents), but from the less successful companies group only one respondent expressed the same view (Table 4).

Table 4. Answers to questions expressing satisfaction with the accounting systems based on an enterprise's success and growth (in %)

	Total		Successful		Less successful	
	%	No of respondents	%	No of respondents	%	No of respondents
Expressed opinions	31.4	22	38.6	17	19.2	5
Satisfied	31.8	7	35.3	6	20.0	1
Needs external information	22.7	5	17.6	3	40.0	2
Needs data analysis	9.1	2	0.0	0	40.0	2
Needs segment accounting and analysis	36.4	8	41.2	7	20.0	1
Needs more frequent reporting	9.1	2	0.0	0	40.0	2

Source: Compiled by the author.

The need for segment accounting and analysis was the most frequently mentioned issue (36.3%), followed by the need for more

externally derived data (22.7%). The total number of respondents who lacked more detailed information about the segments and relevant analysis was eight; seven of them were managers of successful companies and one belonged to the less successful group. Less successful company managers complained more about the lack of general data analysis. Five respondents said they lacked externally derived information such as:

- Customer satisfaction,
- Competitors' sales turnover and costs,
- Objective information about market share,
- Relevant and reliable statistical data that can be compared with own data.

Conclusions and discussions

The current research focused on studying the use of information by the managers of Estonian small and medium-sized companies. The survey confirmed the results of earlier studies, which have determined that managers value financial indicators highly in their management process. Additionally, the current research results show that accounting information is handled differently by successful and less successful company managers.

The more frequent use of financial indicators can be explained by the managers' functions such as, for example, company strategy development. Another reason can be the managers' strong orientation to profit, which is often based on the motivation system that values profit indicators above all. The managers consider financial indicators to be clear and easy to understand which in turn reflects the need for continuous training that would make managers accustomed to seeing alternative indicators as well, e.g., customer effectiveness and non-financial measures.

On the grounds of the recent research carried out in Estonia it can be said that cost accounting has been greatly developed by both large and small-sized companies. In 2002 most of the companies

had internal cost accounting elements. Further development should lead to quality improvement because research done in other European countries show that companies are mostly satisfied with their internal cost accounting and analysis. Therefore, if the main issue for industrial countries is integration of various databases and their relevant analysis, then Estonian companies have to work more on improving their existing cost accounting systems.

However, non-financial indicators can provide even more information for making management decisions as they may better reflect the factors affecting financial indicators. For example, stock turnover, a non-financial indicator that is derived from financial accounting, is still less frequently used than the indicator of financial accounting. A similar relationship can be found between the observation of accounts receivable and the collection time of accounts receivable (debtor days).

Research has established that the indicators reflecting internal processes are more often observed than those reflecting processes related to customers, suppliers and market, or concerning both: the monitoring of financial and non-financial indicators. There can be several reasons for this. Firstly, the traditional accounting model focuses primarily on describing internal processes within a company. The second reason can be that managers and accounting specialists have had little time to get used to the modern business models which are oriented to cooperation between companies, fast reaction to market changes and flexible treatment of customer needs.

Successful company managers were generally satisfied with the existing information system, but at the same time they also saw developmental possibilities. As other researchers have pointed to the lack of external information, it can be said that while the lack of external information is recognized, the lack of internal information is even bigger. Consequently, although successful company managers are using more environment-related information,

they want the accounting system to develop reflecting both the internal processes and environmental aspects.

As a result of the present research, the conclusion can be drawn that in the future the accounting system of the Estonian companies will include more data, i.e. the companies' internal segment accounting will become more detailed and more indicators reflecting environment-related information will be collected. The latter will increase the role of analysis and higher-level abstraction. As a result of information systems integration, a growing amount of various data can be included into the accounting system, which means that both more well-trained and experienced accounting specialists able to analyze the data, and more up-to-date information technology will be needed.

Limitations and suggestions for future research

The objective of the current study was to find the relationship between the performance results of a company and the use of accounting information. The current research tapped a relatively small sample; it does not use any scales of significance and its results were based on yes/no answers. Therefore in the future a new research should be carried out, involving a bigger sample and using significance scales for measuring importance and satisfaction. Moreover, the relations between the use of particular indicators and the reasons for that should also be found out. The present research analyzed but did not bring forth the relations between a company's size, its line of activity, its manager's educational background and use of non-financial indicators. Therefore the latter relations were not studied in the framework of the current research. In the future all of the above aspects should be tested on a bigger sample.

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13. ENTREPRENEURSHIP EDUCATION AND ENTREPRENEURIAL INITIATIVE IN ESTONIA

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Abstract

The article seeks to describe the background of entrepreneurship education in Estonia and evaluate the enterprising spirit of university graduates (Tallinn University of Technology). The article discusses briefly the relationships between the entrepreneurs' educational level and success of enterprises, analyzes the educational and advanced training systems in Estonia, and describes the results of an empirical study on university graduates' entrepreneurship initiative in their own opinion.

The results of the research confirm the great potential of university graduates for increasing entrepreneurship initiative. However, it must be admitted that the curricula of the baccalaureate program are designed so that they merely provide knowledge, but do not motivate people to start a business. The main impediments are connected with the lack of practical experience for starting business, but also lack of business ideas, shortage of capital and risk aversion; the graduates are neither sufficiently aware of nor ready to use entrepreneurship support programs.

Introduction

Education is the key to shaping popular attitudes towards entrepreneurship in the long term as well as offering access to the knowledge and skills relevant to a developing market economy. This is particularly important in a transition context where, for nearly fifty years, business education and market-related knowledge and skills have been excluded from the curricula. Besides this, accession to the EU increases even more the obligation of the government of the Republic of Estonia to promote entrepreneurial initiative by setting up enterprises and developing small and medium-sized enterprises (SMEs) (Treaty ...; EGEE, 2004), which in turn presupposes the development of entrepreneurship education and training (European Charter ..., 2000). The importance of promoting entrepreneurship education is also supported by the documents adopted in the European Union and Estonia in recent years in order to boost entrepreneurship activity (Green Paper ..., 2003; Enterprising Estonia, 2002).

Several studies have indicated that the educational level of Estonian entrepreneurs is relatively high compared to western countries (Klaamann, 1992; Smallbone *et al.*, 1997). The empirical study from a large-scale telephone survey of 1912 SMEs (2002) showed that slightly over half of the principal owners (both male and female) of Estonian enterprises at the time of the survey had a higher education (Jürgenson *et al.*, 2003). At the same time, there is empirical evidence that entrepreneurs are short of economic, administrative and marketing knowledge, and complain about impediments to getting advanced training for managers and employees (e.g., the cost of training, qualification of trainers) (Jürgenson, 2003). The educational level is no doubt important for the promotion of entrepreneurship activity.

There are many opinions about entrepreneurial initiative in Estonia. It has been claimed that in recent years the rate at which new enterprises get established has dropped in Estonia, even though

the number of enterprises per 1,000 inhabitants (43 in Estonia) is below the respective number (51) of the European Union (Estonia Country ..., 2002). The same source declares that the average size of active enterprises (excluding sole traders) decreased from 22 employees in 1994 to 13 employees per enterprise in 2000 (Estonia Country ..., 2002). This number is twice as high as the EU average, which is 6 employees (European Commission, 2000). However, if we additionally take into account Estonia's sole traders, the average size of enterprises would be almost equal to that in the EU (Venesaar and Teder, 2003).

A study addressing the Estonian population's attitudes towards employment in entrepreneurship and related problems indicated that 29% of people would prefer to work as entrepreneurs, which is much lower than in the European Union on average (47%) (Entrepreneurial ..., 2004). According to the survey, entrepreneurs accounted for 12% of the population but only close to 9% of all employed population (Labour Force Survey, 2003). The number of people who at the time of the survey were thinking about starting an enterprise or were already in the process of starting one was considerably smaller in Estonia (11%) than in the USA (25%), or in the European Union (15%) (Entrepreneurial ..., 2004). This indicates the need for measures to be taken to raise entrepreneurial initiative, among which an important one is the development of entrepreneurial education and training. The first step on this way is to learn to better understand the opinions of young people who have completed formal general education about what they have learned and how it impacts on the development of entrepreneurial initiative.

The current article, proceeding from its aim, begins with an overview of the educational level of Estonian entrepreneurs on the basis of earlier empirical research, and attempts are made to detect the relationships between the entrepreneurs' educational level and the success of their enterprise. Then, a review of entrepreneurship education and advanced training systems in Estonia is provided.

In order to find the interrelationship of business education and entrepreneurial initiative, an empirical study was conducted to evaluate how well prepared the bachelor program graduates of TUT are for starting in business. The opinions of university graduates collected during the research were compared to the survey results of the Estonian population. The article ends with the conclusions of the research results and recommendations for further development of entrepreneurship education.

Entrepreneurs' educational level and its relationship with the enterprise's success

The assessment of entrepreneurial education and training in Estonia is based on empirical evidence from a large-scale telephone survey of 1912 SMEs undertaken in December 2002, which was carried out by a market research company on behalf of the Estonian Ministry of Economic Affairs and Communications. To be eligible for inclusion in the survey, enterprises needed to be independently owned, employ less than 250 and operate in either the secondary or tertiary sector. A stratified random sampling design was used, with the actual results from the sample survey weighted to make them representative of the total population of SMEs in the country¹.

Slightly over half of the principal owners (both male and female) of Estonian enterprises at the time of the survey had a higher education. Among the rest of the men, owners with general secondary or incomplete higher education, and among women, owners with a vocational secondary-level education were in a slight majority (Table 1). In enterprises with foreign capital participation, the educational level of the principal owner was also slightly higher (54%) than the average level. If we compare the educational level

¹ The weighting was undertaken in 3 stages, taking into account size categories, fields of activity and regions.

of our entrepreneurs with the international level, it is deemed to be rather high, because, for instance, in the group of high-income countries, 57% of the entrepreneurs had a higher than secondary education and 13% a lower than secondary education. In low-income countries, 23% of the entrepreneurs had a higher than secondary and 50% had a lower than secondary education (Miniti, 2005). Thus, the number of entrepreneurs with a higher education is over twice as high in Estonia as the low-income countries' average (among whom Estonia belongs).

However, our entrepreneurs have insufficient training in business and management. According to the abovementioned survey, in only 11.5% of the enterprises all top and middle managers had a business- or management-related degree from a university, whereas there were differences across groups of enterprises with different characteristics: 11% of the owners of micro-enterprises and nearly 14% of those of small enterprises (10–49 employees), 21% of the owners of foreign capital-owned enterprises, 14% of the owners of Tallinn-based, and 22% of Narva-based enterprises could boast a business or management-related speciality. The same survey shows that 76% of the firms had no manager with a degree in business or management, and in 53% of the firms most managers had not received even a short-term training in business or management, although one-fifth of all the managers had attended long-term (longer than a week) and 34% short (less than a week) courses of business or management (Jürgenson *et al.*, 2003). These indices were much higher in enterprises with foreign capital (48% and 33%, respectively). The managers of medium-sized enterprises (50–249 employees) had participated in training courses less than the overall average. 77% of the surveyed enterprises had plans to train their managers during the next 12 months (choosing from among the answers: yes, definitely; yes, probably), whereas the plans were bigger again in enterprises with foreign capital participation. In terms of location, the indicators were higher in enterprises located in Tallinn and Narva, compared with other major towns and the country's average.

The importance of the entrepreneurs' educational level and training opportunities is also confirmed by an analysis of the activity and growth orientation of enterprises vis-à-vis their entrepreneurs' educational level. The empirical results indicate that firms with owners who have a higher educational level are more numerous among the growing (53%) than the diminishing enterprises (40%). The growing enterprises have also more managers (14%) with a business or management education. Likewise, the need for training their employees was mentioned more frequently than average by the growing enterprises (77%), and 86% of the growing enterprises plan to train their employees during the next 12 months.

In strong correlation are the owners' and managers' educational level and the planning of training, i.e. managers with a higher educational level perceive more than average the need for training their employees. The main limiting factors to training, for example, in the growing enterprises were its high cost, getting temporary replacement for employees taking the courses, and difficulties in finding properly qualified lecturers. In order to provide for employment growth in Estonia in accordance with the objectives, set by the European Union Lisbon Agenda creation of better training opportunities for employees and entrepreneurs should be a priority of the labor and entrepreneurship policies. For that we need to specify the target groups and quality requirements for training, as well as prepare highly qualified lecturers (Estonia Country..., 2002).

Overview of entrepreneurship education and Advanced Training Opportunities

Entrepreneurship education can be examined from a variety of perspectives, including the traditional education system from the primary to the tertiary level, and the system of vocational education. A more specific definition depends largely on the target population.

Entrepreneurship training can be discussed in connection with both the existing body of entrepreneurs and the potential, i.e. start-up or intending-to-start-up entrepreneurs. Potential entrepreneurs are, as a rule, 16–24 years old, mainly with secondary education who are still continuing their studies (Entrepreneurial..., 2004). One of the main obstacles to starting in business is insufficient knowledge. Although in this respect, the potential entrepreneurs in Estonia are more optimistic than the existing ones (Ettevõtlikkuse, 2005), it is assumed that their optimism is mostly naive-romantic, and the actual situation is the opposite. And entrepreneurial initiative as a quality cannot be identified by the mere fact of being an entrepreneur. This is also an attitude to life, which in all circumstances is targeted at taking advantage of all opportunities. A major role in working up attitudes to life, and raising enterprising people is played by the educational system, which should develop and propagate entrepreneurial initiative. Although Estonian (potential) entrepreneurs tend to rely on communication and contacts rather than on their professional knowledge and skills, the role of formal education is quite important for the development of enterprising people and entrepreneurs (Ettevõtlikkuse ..., 2005).

In Estonia, entrepreneurship training began early in the 1990s when three public universities that provided economic education substituted their previous curricula with new, free market economy requirements based ones among whose aims was provision of knowledge about entrepreneurship. At the same time, a number of new private universities and schools of higher learning were founded whose curricula were oriented to business administration and entrepreneurship. While in 1995 there was one private university in Estonia teaching business administration and entrepreneurship (Estonian Business School) with 950 students, and then in 2003 there were already four such universities with approximately six thousand students. The number of other private institutions of higher education providing professional higher education and diploma education in business administration and entrepreneurship

has in the same period grown from four to seven, and the number of students has also doubled (Kõrgharidus, 2004). Additionally, the public universities have established five regional colleges providing professional higher education (the University of Tartu – in Pärnu and Narva, Tallinn University of Technology – in Kuresaare and Tallinn, and the University of Tallinn – in Haapsalu), which focus mainly on teaching business administration and entrepreneurship in the respective regions. Today the number of higher schools and universities providing business administration and entrepreneurship related education in Estonia, which in their halcyon days, i.e. at the beginning of this century, approached thirty, is approximately 20, which meet the country's needs in quantitative terms.

A baccalaureate in business administration can be obtained in nine higher schools and universities on the basis of 12 different programs, and a BA in entrepreneurship in 2 universities on the basis of 2 programs. A master's degree in business administration is conferred by six universities on the basis of nine different programs (4 of them are of the so-called MBA type, or experience-based programs) and an MA in entrepreneurship by one programme. Currently 15.4 thousand students, or 23% of all Estonian students are enrolled in business specialities on different levels at tertiary institutions, which is an awesome figure. The respective numbers in 1995 were 5.1 thousand (19%), and in 1993 – 3.8 thousand (15%). The peak of this boom (26% in 1999), however, is past by now. It can be said that roughly seven thousand out of the current 15.4 thousand students are enrolled on professional higher education, 6.2 thousand on bachelor's degree, and 2.2 thousand on master's degree programs. Students of business and administration account for 31% of all Estonian students in professional higher education, 20% of bachelor's degree students and 31% of all master's degree students. The share of the latter has almost doubled since 1995 (16.4%).

Because of economic considerations and the small size of the market (the studies are not free of charge, there is no government commission for training, training courses are mainly run by commercial enterprises), the programs for business administration and entrepreneurship in Estonian higher schools and universities are almost without exception similar, providing a broad basic education, and having a limited scale of specialization. The real specialization begins on the master's degree level (the 3+2 system), and is confined to the principal subjects of business administration (marketing, accounting, finance, administration, etc.). Although the scale of specialization is not very large, for instance, in business 3+2 programmes at Tallinn University of Technology a total of 200CR, including 60CR on 42CR master's level, the programs can still be regarded as targeted mainly at producing specialists. The curricula contain a total of 14CR of entrepreneurship, including 8CR on the bachelor's level and the role of the subjects targeted at increasing entrepreneurial initiative is minimal. At the same time, the curricula of other areas of education often contain subjects that teach some knowledge of entrepreneurship (e.g., curricula in technical specialities in Tallinn University of Technology), however, not to a very considerable extent, as a rule.

Simultaneously with the development of higher education programs, entrepreneurship training has been included also in the curricula of vocational and general education schools. With some reservations we can say that the curricula of all vocational schools include some business administration or entrepreneurship courses that provide the fundamental knowledge for starting in business. However, admission to the business and administration specialities in vocational education has shrunk from year to year both in absolute and relative terms. In 1995, for example, 2.7 thousand students started to study them, or 21% of all those who started in vocational education, but by 2003, this figure had withered to only 1.9 thousand, or 14%. Apart from the low popularity of vocational education, this indicates the general distress of the vocational education system in Estonia, the reforming of which,

having lasted for nearly a decade, has despite efforts yielded no results.

At the same time, business studies and entrepreneurship are usually not mandatory for Estonian schools; they can be taken as optional subjects. However, the economic subjects (business administration and entrepreneurship) have established a firm position in the curricula of secondary schools and the number of hours they are being taught, currently, as a rule, no more than two hours per day in a school year, is increasing. This is among other things facilitated by increasing publication of special textbooks for schools in Estonia. As a means helping realize entrepreneurial initiative, many Estonian secondary school curricula contain a foreign language, most frequently Business English. Increasingly more used are also programs of vocational counseling and career planning. In some cases, students are able to get some knowledge of business and entrepreneurship through the Junior Achievement Estonia program (JAE) launched in 1992 and recognized by Junior Achievement International in 1999. Entrepreneurship education has been also provided through a variety of programs and activities, such as the Estonian Business Education Program (EBEP in 1993–1996; Phare funding) and others.

Business training courses are provided by 36 consultation and training firms and universities. The number of different training courses is 237. Simultaneously with the relatively high share of business-related and entrepreneurship supporting subjects, the modest share of special entrepreneurship courses in all training courses is noteworthy. Special entrepreneurship training is mostly organized for start-up entrepreneurs, whereas most of these programs are meant for the unemployed. At the same time, most of the managerial training courses are targeted at people employed in medium-sized and large enterprises; the focus on small entrepreneurs is quite rare and the connection of the training courses in this sphere to entrepreneurship and entrepreneurial initiative is not very strong.

Entrepreneurial knowledge and skills are taught to the unemployed in Estonia in the form of advanced training within employment training. To a certain extent, the so-called adaptation training also stimulates entrepreneurial initiative, which among other things is targeted at raising personal employment-related initiative and psychological training. In Estonia, the expenditure on the organization of training accounts approximately for $\frac{3}{4}$ of all active labor market measures. At the same time, active labor market measures account only for one-fifth of the total expenditure on social protection of the unemployed. In recent years, on average 20–25% of the unemployed have been regularly sent to employment training. However, these figures also include those attending the so-called purely vocational training courses.

In conclusion, in Estonia both business administration and entrepreneurship knowledge can be acquired in different forms of training. But the realization of the possibilities depends on people's personal qualities and natural aptitude for entrepreneurship.

Empirical study of entrepreneurial activity and business education

Method and target group

In order to detect the relationships between entrepreneurial activity and business education we studied how fit the graduates from the bachelor's program at Tallinn University of Technology were to start in business. We questioned 70 bachelor's program graduates in business administration, who accounted for about 80% of the total number of this program graduates this year. For comparison, we asked the opinions of the bachelor's program graduates in logistics (72 graduates) who had 40% of their curriculum in business administration. The students' fitness for starting in business is compared with the entrepreneurial activity of the whole population on the basis of the survey conducted by the Estonian Institute of Economic Research (in 2004).

In order to get an idea about fitness for entrepreneurship, we studied how many graduates had already set up an enterprise or intend to do it. We also asked about their plans as to the entrepreneurship form and time perspectives, and motivation for and hindrance to starting business. Some questions were asked as to whether they have benefited from the speciality learned at school.

Survey results

Based on the specific nature of the target group, we can regard most interviewees as potential entrepreneurs both among the business administration (BA) and logistics students. We also regard as potential entrepreneurs those interviewees who were thinking about starting a business or were doing so at the time of the survey. Only 8.8% of the BA graduates and 25% of the logistics graduates had not yet made plans to start a business (Table 1). At the same time, more numerous among the logistics students were those who already had their own firm, or who were setting it up.

Approximately 1/3 of the students want to postpone starting a business to a more distant future. This tendency was especially noticeable among the female students (Figure 1). In comparison with the results of the survey conducted by the Estonian Institute of Economic Research, only 19% of the Estonian young people aged 16–24 were potential entrepreneurs (Entrepreneurial ..., 2004). The respective index for the Estonian population as a whole was 61% (Entrepreneurial ..., 2004).

The main motives for becoming an entrepreneur were: I want more freedom of action to work as I prefer; I have always wanted to be my own master; I want to put myself to the test; and I want to realize an idea or innovation; I want an opportunity to earn more, or earn a very good income, and I want to attain a better position in society (Table 2).

Table 1. Have you set up a firm recently, or are you planning to do so? (% of the interviewees)

Answers	Business administration students			Logistics students		
	Female	Male	Total	Female	Male	Total
Never occurred to me	14.6	4.5	8.8	40.0	16.7	25.0
No, but I am thinking about it	70.8	77.3	75.1	35.0	63.9	53.6
No, I was hoping to, but gave up	6.2	13.6	8.8	10.0	–	3.6
Yes, I am starting now	4.2	–	2.9	15.0	8.3	10.7
Yes, I started three years ago and the firm is still operating	–	4.5	1.5	–	11.1	7.1
No, I was an entrepreneur once, but not any more	4.2	–	2.9	–	–	–

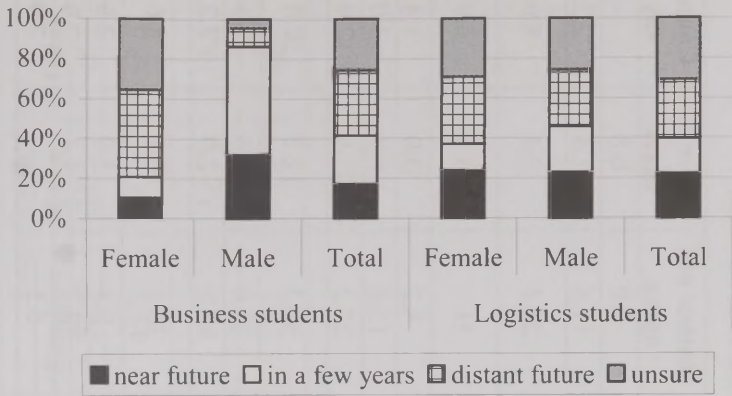


Figure 1. Expected time for starting business.

Less important motives were implementation of technological innovation and continuing family traditions. Most of those students who already worked were motivated to continue as employees, and only 1/3 were ready to become an entrepreneur if they lost their job.

Over half of the potential entrepreneurs (60.2%) intended to set up or buy their own firm (public or private limited company). Self-proprietorship was much less popular (Table 3).

The impact of the curricula and knowledge obtained on starting a firm indicated that what one has learned in business administration specialities helps most of the interviewees (81.2%) to start their own business, whereas both women and men are of a similar opinion. Students in logistics specialities also find that the knowledge obtained during studies helps most (74.3%) to start a business, but the opinions expressed by men and women are slightly different (Table 4).

Table 2. In case you become an entrepreneur, what are your motives? (% of the interviewees)

	Completely agree	Rather agree	Rather not agree	Don't agree	Cannot say
I want more freedom of action	56.1	38.1	5.0	0.8	–
I have always wanted to be my own master	46.0	38.8	11.6	1.4	2.2
By working in my own firm I am more respected	11.5	46.0	24.5	9.4	8.6
I am not satisfied with my work (those who were working)	11.9	25.7	31.7	23.8	6.9
I want to put myself to the test	39.6	51.8	4.2	3.0	1.4
I want to command and motivate others	32.4	40.2	13.6	10.8	3.0
I want to continue family traditions	5.8	20.2	27.3	33.8	12.9
I want to be in the vanguard of technological ideas	12.9	33.8	30.3	12.2	10.8
If I lost my job, I would set up my own firm	11.5	39.6	23.0	8.6	17.3
I want to earn well	41.0	36.7	12.2	2.9	7.2
I want to follow the example of someone I admire	19.4	26.6	35.3	10.1	8.6
I want to attain a better position in society	46.0	36.7	9.4	5.0	2.9
I want to develop my hobby into business	30.2	38.8	18.7	4.4	7.9
I want to implement an idea or innovation	37.4	48.2	6.5	–	7.9

Table 3. If you started your own business, which form would you choose? (% of the interviewees)

Answers	Business administration students			Logistics students		
	Females	Males	Total	Females	Males	Total
Self-proprietorship	10.4	12.5	11.1	22.9	13.5	18.1
Set up/buy my own firm (private or public limited company)	62.5	66.7	63.7	45.7	64.9	55.6
Buy participation in a firm (private or public limited company)	10.4	16.7	12.5	14.3	13.5	13.8
Other (not yet specified, family business)	16.7	4.1	12.5	17.1	8.1	12.5

Table 4. Will your speciality help you to start your own firm? (% of interviewees)

Answers	Business administration students			Logistics students		
	Females	Males	Total	Females	Males	Total
Yes	81.2	81.0	81.2	67.6	80.6	74.3
No	6.3	4.7	5.8	5.9	–	2.9
Don't know	12.5	14.3	13.0	26.5	19.4	22.8

In the opinion of the students of both specialities the subjects that provide the relevant knowledge for starting a business are as follows: entrepreneurship, various subjects of marketing, business communication, administration, economic accounting, financial accounting, and logistics.

The areas that students want to learn more about, which encourage them to start own firm, are business planning, business law, application of accounting programs, and foreign languages. In addition to these, the insufficient amount of practical studies lack of experience, and the ensuing lack of confidence for starting a business were emphasized. They wish to know better the practical procedure of setting up a firm. These insecurities are typical of bachelor's degree graduates, as the share of special studies that provide more profound knowledge and skills is small at this level. Entrepreneurship advice is needed by all respondents in the first year of start-up.

The entrepreneurial initiative survey results of Estonian people also indicated a need to improve oneself in making a business plan, setting up an enterprise, management, accounting and marketing. They felt shortage of communication and problem settlement skills (Entrepreneurial ..., 2004).

In addition, on the basis of the 2004 Eurobarometer questionnaire, 15% of the responding entrepreneurs felt lack of skills needed by entrepreneurs and 13% felt lack of knowledge, which is consid-

erably higher than by the opinions of entrepreneurs in the old European Union countries (5% and 3%, respectively) (European Commission. *Entrepreneurship ...*, 2004).

The speciality they studied provided knowledge for starting in business, but much less motivation for starting a business, as depicted in Figure 2 below. The reason here is the orientation of the curricula to the preparation of specialists in business administration.

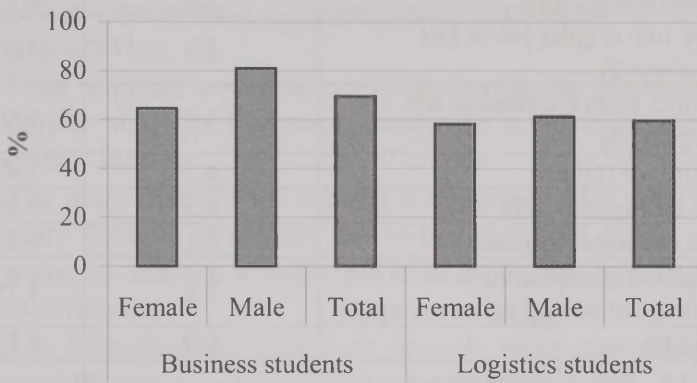


Figure 2. Learning and motivation to become an entrepreneur.

Most of the students intended to set up their own firm. Setting up a new firm, however, involves various obstacles and problems. In order to study how students assess these problems, we asked them to rank the listed obstacles and problems in order of importance. For business administration students, the main reasons that restrict starting a business are insufficient motivation and capital, lack of practical experience and absence of a business idea (Table 5). In the first place for logistics students were insufficient knowledge and skills, followed by absence of a business idea and risk aversion.

Table 5. Which are the reasons that prevent you from starting a business?

Obstacles	Please rank the reasons by order of importance	
	Business administration students	Logistics students
No practical skills to start in business	3.9	3.30
No business idea	3.9	3.35
Takes too much effort	5.6	6.15
Security of a regular job is lost (the employed)	5.6	4.65
No income from the present job (the employed)	5.5	5.60
Possibility of failure	4.1	3.97
Fear of falling into debt	4.3	5.00
Current economic climate	5.1	6.25
Complicated administrative procedures for setting up an enterprise	5.9	5.15
Poor health	8.9	8.85
Other (e.g., lack of motivation, and capital)	3.7	4.50

Lack of capital was not such a big problem if the students were aware of and knew better the state measures to support entrepreneurship. No one of the respondents has used them; 35.9% of the business administration and 25.8% of the logistics students know them well but have not used; 57.8% and 66.1% respectively have heard something, and 6.3 and 8.1% have heard nothing about them.

It may be concluded therefore that the bulk of TUT graduates have given a thought to setting up an enterprise, encouraged by obtaining a speciality, although entrepreneurship counseling in the early stage is needed by everybody. Of great help in determining the counseling subjects should be learning about the obstacles to setting up an enterprise.

Conclusions

Knowledge of business administration and entrepreneurship can be obtained in Estonia through different channels of education. Realization of the possibilities, however, depends on people's personal characteristics and willingness to act as an entrepreneur.

The survey of graduates from Tallinn University of Technology in business administration and logistics indicated that:

- The graduates are a big potential for increasing entrepreneurship activity;
- Male students are more active in starting in business, while female students postpone setting up a business into more distant future;
- The main motives for starting a business is the wish to have more freedom of activity and to be one's own master, to earn more, to achieve a better position in society and implement innovations;
- The baccalaureate programs provide more knowledge than create motivation for starting a business;
- The main obstacles to setting up an enterprise are lack of practical skills for starting a business, absence of a business idea, shortage of capital, and risk aversion;
- They are not sufficiently ready to use and know little about entrepreneurship support programs.

To sum up, it may be said that the university programs are typically oriented to the preparation of specialists in business administration. Therefore, tertiary education should pay more attention to the promotion of a more entrepreneurial attitude in students to increase their aptitude and fitness to use every opportunity presented in the market.

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14. ENTREPRENEURSHIP AND SMALL BUSINESS RESEARCH IN ESTONIA: AN OVERVIEW

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Abstract

The aim of this article is to summarize the research on entrepreneurship and small business in Estonia done in the course of more than fifteen years after gaining independence and taking the first steps towards decentralization of the economy. In this period, entrepreneurship development in Estonia actually started after nearly 50 years of centrally planned economy when private entrepreneurship was prohibited and the economic activity concentrated into a small number of large-scale companies. Along with systemic changes in society, a new period began in the history of economic research and studies into entrepreneurship and small business started to be conducted.

Since then, alongside with the development of society, changes have been made in the content, methods, organization and different other aspects of the entrepreneurship and small business research. Nevertheless, the results of a number of studies described in this article help us to evaluate some developmental trends in the Estonian entrepreneurship environment and small and medium enterprises (SMEs), as well as the development of economic research in the period of analysis. On the basis of the research results, it is possible to identify changes in some more frequently studied indicators in this period, for instance, the age and education of entrepreneurs, and the factors affecting the entre-

preneurship environment which has turned much more favorable for entrepreneurs. However, some factors impeding the development of entrepreneurship have remained important throughout the period (e.g., availability of finances).

Introduction

The entrepreneurship and enterprise reform, which occurred earlier than other economic reforms, started spontaneously and as efficiency-driven in the deep stagnation period with *perestroika*, which aimed at finding new possibilities, via new forms of management, to recover the economy and eliminate the deficit of consumer goods in the country (USSR law ..., 1988). The restoration of independence in Estonia created new opportunities (e.g., new forms of entrepreneurship, the ownership reform, institutional development) for developing entrepreneurship and small businesses. As there was no adequate legislation for directing many processes in the early stages of transition, it was important to study these processes and learn from experience, and along with this, to elaborate the legislation gradually, according to changes in the external entrepreneurial environment. Alongside these changes a new period started in the history of economic research and in particular, the sphere of entrepreneurship and small business research started to develop. After that an opportunity presented itself to cooperate with researchers from other countries, to learn from their experiences in improving research methodology and to compare the development of entrepreneurship in Estonia with the entrepreneurship and its environment in other countries.

The aims of this article can be summarized as follows:

- To get a general idea of entrepreneurship and small business research in the period of analysis, whereas many studies, particularly from earlier periods, may be insufficiently publicized;

- To produce the research results about different stages of entrepreneurship and small business development and the business environment in the country;
- To draw conclusions by comparing the research results, and to describe the changes that have occurred in the period of analysis.

On the basis of the research described in the article, it is possible to identify changes in some more frequently studied indicators in this period. One of the most frequently studied aspects in almost all entrepreneurship studies is characterization of entrepreneurs and evaluation of the entrepreneurial environment, or evaluation of the significance of the problems limiting entrepreneurship. Unfortunately, the research samples, as a rule, are not comparable. However, some better-represented studies can still serve as a basis for describing changes in both entrepreneurs and in problems limiting entrepreneurship. Occasionally, entrepreneurs have been asked to divulge their motives for starting business. Besides these indicators, about a decade after entrepreneurship and small business began developing, more attention started to be paid to the impact of SME policy and the more frequently asked questions were about the availability of entrepreneurship support services and demand for them. Here arises the question about the significance of these studies for planning SME support policies and evaluating the government's role in entrepreneurship development.

Although attempts have been made herein to get a more-or-less satisfactory picture of the entrepreneurship and small business research conducted in this period, a selective approach has to be adopted depending on the availability of information.

The article describes briefly the objectives, contents and the main results of the entrepreneurship and small business studies involved. Attempts have been made to identify some changes and developments that comparison of the research results enabled, for instance, some characteristics of entrepreneurs (age, education, motivation for start-up), entrepreneurship development problems,

the availability of and the need for entrepreneurship support services as they are evaluated by entrepreneurs themselves. In order to get a better picture of these developments, for the sake of comparison the results of some later studies (e.g., from 2002 and 2005) have been introduced.

The article begins with the characteristics of entrepreneurship and small business research and the methods used, including also the overview of the main research methods used in the research under discussion in the article. This is followed by an overview of entrepreneurship and small business research undertaken in different periods and financed from different sources (e.g., the European Commission). After that, the conclusion has brought about some research results to characterize the development of entrepreneurship, small businesses and business environment in Estonia in the period under discussion.

Research characteristics and the methods used

The entrepreneurship and small business studies can be described on the basis of various characteristics (e.g., scope, method, etc.). Depending on their scope, the studies can be classified as follows (see also Appendix 1):

- National entrepreneurship studies;
- Regional studies (Ida-Viru, Viljandi, Harju County, etc.);
- Studies of individual sectors, particularly manufacturing (food, woodworking, textile, sewing, metal and engineering industry, etc.).

The research methods used involve mostly surveys as the main methodological approach and questionnaires for data collection, later on face-to-face interviews were supplemented by some qualitative studies. In many cases, the surveys were based on only a small sample, which did not enable extending the results on the whole of Estonia, but allowed drawing conclusions only about particular enterprises. Today we can use, to some extent, also sta-

tistical databases, which makes the samples more representative, but the small number of indicators remains a problem, and their reliability is not guaranteed.

Entrepreneurship and small business research described in the article has mostly been conducted with the support of external funding (e.g., Phare ACE Programme, FP6, etc.) (Appendix 1). This is obviously the reason, too, why the research results have been insufficiently publicized in Estonia, because all the final reports have been submitted to the financing institution. Additionally, the research was largely dependent on individual initiatives and projects, and networks established between researchers in the Western and transition countries. It is partly because of these reasons that we do not know to what extent the research results have been related to and have affected the preparation of the country's entrepreneurship policy. To be able to assess the business environment and get a clear understanding of the regular trends and phenomena, repeated research using the same methodology is needed, on the basis of which the government can work out practical and rational SME policies. In this respect, regular monitoring studies are planned which are financed from the EU structural funds. Another important aspect is connected with the statistical databases, which have been a source of a number of sectoral studies, but are still modestly used. There is a need to raise the reliability of statistical databases and expand their availability to research institutions and post-graduate students of universities.

Overview of the studies on entrepreneurship and SME, and the business environment

Studies in the period 1986–1994

The first studies on entrepreneurship and small business in Estonia started already in the Soviet period when the *perestroika* program was launched, looking for ways to stop economic stagna-

tion. In the mid-1980s, the Government of Estonia, economists and managers started to seek possibilities for introducing more diversified organizational forms of production. In 1985–1987, the fundamentals of state-owned enterprises (up to 50 employees) were worked out. Estonia was the first in the Soviet Union where in 1985, at the initiative of some researchers from the Estonian Academy of Sciences Institute of Economics a standard design of economic activity fundamentals for small enterprises was elaborated. In cooperation with practitioners, they started to experiment with setting up small enterprises in Estonia. The positive outcomes of this process served as a basis for the USSR Council of Ministers resolution to permit state-owned small enterprises to be founded in all the Union republics. The contribution of Estonian scientists was also valuable for the development and introduction of the principles of other forms of small production (production cooperatives, self-employment) where Estonia's experience served as an example for the other Union republics.

The development of the entrepreneurship and successful implementation of enterprise reform has been estimated by many authors as the key component and the motivating force in the process of transition from command to market economy in Estonia as well as in other Central and Eastern European countries (Terk, 1991; Smallbone and Venesaar, 1999). The task to transform the structure of the over centralized and over concentrated enterprises that had been developed over decades to satisfy the requirements of command economy demanded radical changes both in theoretical perceptions and in practice.

For the initial period of transition it was characteristic that the simultaneous administration and regulation of many processes, particularly of those connected with the emerging private ownership, caused conflicts between different social groups (e.g., between new entrepreneurs and old managers of state enterprises) and problems in timing the reforms (e.g., the enterprise and land reform) and/or in their implementation. In this period, scientific

research focused on the monitoring of the development of new entrepreneurship forms. Researchers took part in the improvement of entrepreneurship-related legislation and regulation as well as assessing the impacts of the changes in the entrepreneurial environment on enterprises' development in different phases of the enterprise reform which was based on institutional changes (Lugus *et al.*, 1991; Venesaar, 1991; etc.). Participants in this research were from the Estonian Academy of Sciences Institute of Economics, the Estonian Institute of Information, the association "Teadus", the universities in Tallinn and Tartu, the entrepreneurs' unions (e.g., EVEA – Estonian Association of Small Businesses), and employees of ministries and other institutions.

The same research topics connected to monitoring entrepreneurial development and analyzing the changes in the entrepreneurial environment were covered by subsequent studies, but after Estonia regained independence, its researchers started to collaborate more intensively with their colleagues in other countries and to participate in international projects, which involved opportunities to learn from Western countries' experience in improving research methodology, and to compare the development of entrepreneurship and the entrepreneurial environment in Estonia to those of other countries. Most of the studies described below were conducted with the support of external funding (e.g., the European Commission).

Research on entrepreneurship: the entrepreneurial environment in Estonia and major problems facing entrepreneurs (1991–1994)

The research was based on the entrepreneurial questionnaire of SARIE (Society for Associated Researchers on International Entrepreneurship). The questionnaire was supplemented by a number of questions of local significance and the survey was implemented by EVEA in the following two years (1993–1994). In 1994, the research was financed by the CIPE – Center for International Private Enterprise.

On the basis of the interviews with entrepreneurs/managers, the motivation for company start-up and the influence of the environment during the first years of operation were analyzed (Klaamann, 1992). 18 countries participated in the research (Estonia since 1991). The interviews were carried out in 86 companies of Estonia, mostly with members of the EVEA.

The results of the research indicated that changes in the society were the main reason for entrepreneurial developments in the late 1980s, rather than pursuing personal interests (Klaamann, 1992). Until the mid-1980s, it was practically impossible to develop such forms of entrepreneurship that presupposed participation of private individuals as owners. Therefore, as soon as the first legal opportunity arose, more active people seized it to set up their own enterprise (small state enterprises, cooperatives). This was the reason given by most of the more active entrepreneurs of that time as their motivation. Among personal interests were the hopes to improve the material state of their family, to use their working habits and time more flexibly, and the desire to develop themselves.

Among the factors hindering the development of entrepreneurship most of all in 1991, the legislation, suppliers (esp. from the Soviet Union) and lack of qualified staff were mentioned in the first place. These were followed by inexperience, distrust, and (political and economic) uncertainty. The conclusions drawn within the same research about North-East Estonia (as the most passive region in terms of entrepreneurship development) indicated bigger than average problems faced by enterprises there in all the listed spheres. In the initial period of transition, the uncertainty was created, to a large extent, by the anarchy caused by the conflict between the old and new legislation. Compared to the other Central and Eastern European countries, Estonia had to start almost from zero, i.e. from elaboration of constitutional law principles, because no independent statehood had existed before the transition.

Entrepreneurs assessed in terms of necessity the following aspects of important services: finding market information, operation premises, low-interest loans, legal assistance and consulting services.

Research conducted in 1993 and 1994 involved 138 and 397 entrepreneurs, respectively. According to these studies, the major obstacles to the development of enterprises were related to legislation (amendments to legislation, bureaucracy, privatization and ownership), banking (high interests on loans and access to long-term loans), taxes (income and value added tax, market (low domestic purchasing power), and security.

In these studies, the authors asked for public opinion about and the government's attitude towards entrepreneurship and entrepreneurs. The results suggested a certain improvement in the attitudes, which was a significant factor influencing the entrepreneurial environment.

Studies connected with the framework of the EU projects "Technical assistance for SMEs in Estonia" or "Phare assistance to the SME programme in Estonia" (1995–1999)

Regional profile study of Ida-Virumaa (1995)

The Regional Profile Study of Ida-Virumaa was a pilot project for the elaboration and use of regional profiles in Estonia. A regional profile had to provide background information and analysis that would serve as a basis for the formulation of industrial and business development policies and strategies for a region. The study particularly emphasized the aspects of business development. The approach of the study was mainly analytical, the profile was elaborated by means of a substantial collection and analysis of factual information, and also some information of a more qualitative nature provided, inter alia, through interviews and a workshop with persons professionally engaged in the development of business in the country.

The industrial facilities of Ida-Virumaa and its manufacturing traditions of textiles, wood, chemistry, metal and electronics, its skilled industrial workers, combined with the availability of raw materials, cheap labor and energy were considered as the strengths and the basis of business development in the region. The main weaknesses identified were outdated equipment, shortage of external finance, and weak marketing and management skills. A coordinated effort to help enterprises with a good growth potential through the provision of business advice, loan and venture capital were suggested as mechanisms for supporting the development of enterprises. The shortage of entrepreneurship is another weakness that must be addressed through special efforts to help the existing and starting enterprises (Regional..., 1995). The conclusions also include analyses of the opportunities and threats to the region and recommendations in the form of both short- and long-term support measures for boosting business development.

Regional survey of SMEs (1996)

The participating institutions were the Ministry of Economic Affairs, Emor Ltd, EIM International (the Netherlands). The survey involved interviews in 1,500 SMEs with up to 80 employees, the aim being to get information about entrepreneurship and problems faced by SMEs, so as to help the Business Advisory Centers (BAC) to elaborate their service packages.

In general, very urgent problems were as follows: high interest rates, failure to get new technology, problems with finding suitable employees, and high sales taxes (Pöder, 1996). As for the use of business support services, on average nearly seven services from 36 were used by each respondent, but the use of different services varied. The most popular services used, as well as estimated as highly necessary were: bookkeeping services, legal information about making contracts, computer courses, etc.

Small-scale business in Estonia (1997)

The survey was commissioned by the Estonian Ministry of Economic Affairs together with the Phare project "Technical Help for Estonian Enterprises". The purpose of the survey was to identify the most difficult problems in the early stages of a business as well as the main problems and needs at the time of the survey; how the companies have developed and in what fields they expect to get support from the state and local authorities. In total, 396 interviews were conducted in enterprises with less than 80 employees.

The most difficult aspects pointed out by the entrepreneurs were: financial problems, getting properly qualified staff, lack of knowledge, skills, procurement of technical equipment and premises (Tamm, 1997).

Survey of manufacturing SMEs (1998)

The main goal of the survey was to investigate the main characteristics of small and medium-sized manufacturing companies (0–250 employees) as well as their managers' opinions about some economic and environmental aspects affecting these SMEs. A total of 400 enterprises were studied. The face-to-face interviews were conducted with either the managing directors (52%), or chairmen of the board (38%), or some other managers or members of the board (10%). Also participating in the survey were the SME Phare team, the Ministry of Economic Affairs, and Emor Ltd.

Issues such as finance, market trends, business associations, labor force, infrastructure and several others were discussed. Special attention was also paid to the role of the Government and to EU-associated problems. The fields with the biggest problems for entrepreneurs were financing, marketing, labor force, legislation and taxation. Only 10% of the entrepreneurs estimated the government activities to be good or quite good. The recommendations

worked out as a result of the research ranked the sectoral policies in manufacturing by order of priority as follows: taxation policy, facilitating SMEs' access to funding, improving the availability of skilled labour, support to SMEs' export activity.

Studies conducted within the EU Phare programs

*The survival, growth and support needs of manufacturing SMEs in Poland and the Baltic States: developing policy agenda (1995–1996)*¹

The study was conducted within the EU Phare ACE Program. The research sought to contribute to a better understanding of the factors influencing the survival and growth of small and medium-sized manufacturing enterprises (SMEs) in Poland and the Baltic States and the development of policies designed to increase their contribution to economic development. Additionally, the research aimed to facilitate the exchange of concepts and research methodologies between the partners, and to establish computerized databases of SMEs in Poland and the Baltic States, which could be used for subsequent long-term studies.

In Estonia, 100 face-to-face interviews were conducted with entrepreneurs/managers of SMEs (with less than 100 employees) in May 1994 in four manufacturing sectors: food processing, clothing, metal goods/engineering and wood products/furniture.

The research results suggested that small and medium-sized production enterprises contribute to the development of the Estonian economy mainly by creating jobs, occupying foreign markets and through restructuring of the economy. Unlike many Western countries, the role of the Estonian Government's policy in supporting small and medium-sized enterprises was relatively weak and inefficient in this period. Based on the analysis of the survey results and

¹ The research project was led by Prof. David Smallbone from the Centre for Enterprise and Economic Development Research (CEEDR) in Middlesex University, London.

the factors that limit entrepreneurship development, the authors proposed some possible alternative SME development policies. The following aspects were mentioned as the main preferences: providing macroeconomic stability, evaluation of the regulation and tax load, improvement of the availability of financial resources for SMEs, supporting enterprises' technological modernization, development of the entrepreneurship support infrastructure and the export promotion system, and improvement of the management training system (Smallbone *et al.*, 1996).

*Internationalization, inter-firm linkages and SME development in Central and Eastern Europe (1996–1997)*²

The study was conducted within the Phare ACE Program. The research investigated the effects of the increasing internationalization of markets on small and medium-sized enterprises (SMEs) in Poland, Bulgaria, and the Baltic countries. The analyses included an evaluation of the alternative options and management strategies open to SMEs in foreign markets, together with the policy issues that need to be addressed by SMEs to respond positively to the threats and opportunities presented by internationalization. Focusing on SMEs in the food and clothing sectors, the methodology involved three key elements: desk-based analysis of the existing data sources, a survey of SME managers (120 in the Baltic countries) and interviews with key informants.

The research results indicated that SMEs in all the CEE countries were capable of responding to the opportunities presented by new foreign market openings and that, at least in the short term, they were competitive. The main problems facing firms seeking to serve foreign markets were the need to develop and organize their marketing, and the fact that the managers of SMEs had only lim-

² The research project was led by Prof. David Smallbone from the Centre for Enterprise and Economic Development Research (CEEDR) in Middlesex University, London.

ited experience in sales and marketing. At the same time, very few firms surveyed in any of the CEE countries had benefited from assistance meant to encourage and support export activity. The analysis highlighted the need for policy support to SMEs with respect to internationalization (Smallbone, 1998). There was a high level of demand among managers for assistance with export promotion, including increasing access to information about foreign market opportunities, advice about the organization of distribution and export promotion, use of grants for developing export, facilitating the provision of courses in export marketing, and supporting the development of sector-based organizations to offer export assistance to SMEs.

The authors recommended provision of sector-based joint marketing initiatives between firms, as well as measures designed to improve the provision of managers with marketing knowledge and skills. This should include the development of training programs in export marketing for working managers, as well as a review of the marketing content of courses in business schools and other institutions that can influence the future supply of SME managers. In addition, high-quality management initiatives targeted at SMEs should be developed. Given the resource constraints, policymakers should target assistance to those firms that are likely to make the greatest contribution to economic development, either through the generation of external income from foreign market sales and/or through import substitution (Internalization ..., 2000).

*EU study on the evaluation of Phare SME Programs in Central and Eastern European countries (1998–1999)*³

The study in Estonia was a part of the horizontal evaluation of the Phare SME programs undertaken (by RDH/LDK consortium and local consultants) for the Evaluation Unit of the Common Service

³ The study was co-ordinated by a team of EC evaluators: Charles Monck, Milford Bateman and Jean-Jacque Kudela.

for External Relations (SCR) of the European Commission (Kudela and Venesaar, 1999; An Evaluation ..., 2000). Overall, Phare SME programs have contributed to the development of the SME sector. However, they have run into many snags such as poor design and lack of planning, which have severely undermined the contribution they could have made to a vitally important area of economic development (An Evaluation ..., 2000). In the conclusions for Estonia, it was assessed that Phare funds arrived in Estonia too late and were not sufficient in comparison with other transition countries, and the EU assistance could have been much more significant. The government was not deeply involved in the assistance to the SME sector and the co-ordination of financial and institutional programs was unsatisfactory (Kudela and Venesaar, 1999). A number of improvements were suggested for financial as well for institutional programs as a result of the study (e.g., the loan scheme, the development of financial databases, defining SME policy priorities, assisting start-ups, etc.). The outcome of the above survey was directly related to politics (evaluating the use of EU funding for the purpose of supporting SME development and its results in the CEE countries). The survey was followed by several studies and reviews in 2002–2004 which evaluated the SME policies and the support system, among them preparation for the wide use of EU structural funds, in order to promote the development of entrepreneurship in Estonia (e.g., Assessment ..., 2002; Summary of portfolio ..., 2003; Research on Feasibility ..., 2004).

Project "SME internationalization" (1997)

The study was conducted within the EU Phare Ecos-Overture Program. The main objective of the research was to encourage international cooperation between small entrepreneurs from different countries through cooperation between municipalities who were to organize and partly finance the project implementation. Two counties of Estonia took part in the project, namely, Ida-Virumaa and Viljandi. 198 top managers from Kohtla-Järve and 172 from

Viljandi were questioned on all sectors of economy (primary, secondary and tertiary). There are big differences between these regions in terms of entrepreneurship development and scope of internationalization. The researchers studied the government's side and local possibilities to reduce the impact of factors that limit internationalization, suggested measures to activate cooperation between local municipalities and enterprises, and extend international communication (Mõistus *et al.*, 1997; Riisalu and Dusman, 1997).

Project "WOMEN XXI". Development of female entrepreneurship in Harju County, Estonia (2001)

The research within the "WOMEN XXI" project conducted within the EU Phare Ecos-Overture Program sought to provide a survey of the role of women among the population of Harju County and in the labor market, and of the socio-economic development in the county, to characterize the situation of female entrepreneurs and their developmental problems. The research contained an analysis of opinions of female entrepreneurs about their activity and external environment, as well as the problems of start-up entrepreneurs and female managers of non-profit organizations. The results of the analysis were used for the evaluation of the needs of female entrepreneurs in Harju County to identify their needs for support. Nearly 200 interviews were performed with active women in entrepreneurship as well as with potential entrepreneurs preparing to enter the market.

On the basis of the opinions of experienced and start-up female managers/entrepreneurs, sole proprietors and specialists of various institutions, the first three major problems in the development of female entrepreneurship can be summarized as follows: availability of finances (starting capital, growth finance), discrimination against women by providers of finances, lack of management, marketing and selling experience. The research used the opinions of female managers/entrepreneurs and specialists to identify the needs of female entrepreneurs and measures for sup-

porting them. A number of measures were suggested in the female-targeted policy field (raise awareness of potential female entrepreneurs, treat female entrepreneurs as a special group and subject of special programs, introduce the policy of equal opportunities).

Studies financed from other sources

Changes in the economic environment and entrepreneurship development in Tallinn after accession to the European Union: problems and measures (2001)

This is an example of a study financed from local sources (City Government) among a number of locally significant studies that were mostly commissioned by ministries or municipalities. The aim of the study was to find out how prepared entrepreneurs are for participation in the EU single market and how the accession has impacted on their activity. For this purpose, an empirical study was carried out in manufacturing enterprises (100 respondents) in Tallinn in 2001. The study indicated insufficient provision of enterprises with information about EU legislation. Only close to one-fifth of the respondents were of the opinion that their enterprise fully satisfied the EU requirements at the time of survey (Kallam *et al.*, 2002). The conformity was estimated to be the highest in the sphere of environment protection (49% fully or partly complying) and the lowest in the competition regulations (38%). The results of the study were certainly influenced by the size of the responding enterprises (mostly micro- and small enterprises) and their market orientation (most were operating in the home market). The analysis of the implementation process of EU requirements in different spheres (environment protection; industrial safety; certification of products, technical standards and terms; trade marks; consumer protection; competition rules) showed the enormous and complicated work to be done by entrepreneurs in the convergence process.

It has to be admitted that the activity of conducting local research has risen year by year. Among them, a significant part of the studies address the labor market, marketing or other issues, including the analysis of the development of entrepreneurship and SMEs, changes in the business environment or SME policy problems. During the early period of transition, a few local studies have been conducted, especially on entrepreneurship and SME issues, but the opportunities for them have grown now thanks to the structural funds. Although the local studies may be inferior to international studies in their scope and level of finances, they are relevant from the point of view of finding solutions to several urgent local problems and drafting regional or sectoral economic plans.

*Entrepreneurial strategies and trust. Structure and evolution of entrepreneurial behavioral patterns in East- and West-European environments" (2002–2003)*⁴

The study was funded by the Wolkswagen Foundation within the program "Unity amidst variety? Intellectual foundations and requirements for an enlarged Europe" (2002–2003), where countries from the West (Germany, UK, Italy) and East (Estonia, Russia) were included.

The study results confirmed that Estonia has experienced major changes in entrepreneurship, in people's attitudes and business relations in connection with the development of market relations since the beginning of the transition period. With the stabilization of the business environment, trust relations have developed and changed in all their forms, while the improvement in formal institutions has started to promote more stable and predictable business relations. The survey results indicated that business relations are based on all three types of trust (i.e. personal, collective and

⁴ The study was led by Prof. Hans-Hermann Höhmann (Research Centre for East European Studies, Bremen University) and Dr. Friederike Welter (Rhine-Westphalia Institute for Economic Research, Essen)

institutional), which may play different roles at different stages of enterprise development, and that alongside changes in specific environmental conditions trust changes dynamically in business relations between suppliers and customers (Venesaar, 2004). In the early transition period, personal trust prevailed in business relationships. As a result of changes in the business environment and the overall institutional development in the country, the role of institutional trust has increased.

In intra-firms relationships, organizational culture has become more democratic. However, institutional regulations (e.g., tax policy) have encouraged small entrepreneurs to use some non-formal strategies (e.g., unreported wages, evasion of taxes). The relatively low satisfaction of personal goals among small entrepreneurs may be explained by continuous difficulties in solving the problems caused by certain constraints in the business environment (e.g., unavailability of finances, changing legislation). The emergence of and changes in trust relations depend on the characteristics of enterprises, such as size, age, sector, involvement of partners, membership and co-operation.

The analysis of survey results and case studies have helped us to understand the conditions of the business environment and processes that support the development of trust in both inter- and intra-firm relations, and in relations with authorities. Estonia's integration into the EU market, along with continuous development of the institutional structure of the society and the growth of institutional trust will bring about new shifts in business relations and regulations, which in turn will improve the entrepreneurial environment and promote conditions for the growth of entrepreneurship.

Some research results to characterize the development of SME and the business environment

Some results and trends can be identified in the development of entrepreneurship, small business and business environment on the basis of the more representative studies of the enterprise sector. For example, a change has occurred among entrepreneurs towards younger age (average age 40 in 1993, 35 in 2002). While in 1991 almost all entrepreneurs had a higher education, then in 2002, 51% had a higher education and most of the rest had a secondary education (incl. vocational education).

If we compare the motives of entrepreneurs for starting a business, some changes can be noticed. The main motives early in the transition period were to take the market opportunities, achieve independence and use one's skills for providing income to one's family. At the same time, neither their own career nor the goals regarding the relations between enterprise and society were important for entrepreneurs. Independence has remained an important motive for starting business also today, as well as earning a higher income, but contemporary entrepreneurs are also interested in gaining a better position in society (Eesti elanike ..., 2004).

The company start-up and development during the first years of its operation have been directly influenced by the readiness of the whole society (both politically and economically) to accept new forms of entrepreneurship. Based on the studies, public opinions were negative early in the transition period and turned positive in 1993 when 70% of the entrepreneurs held this opinion. A year later (1994), already 88% of the entrepreneurs confirmed a positive opinion about entrepreneurship in society. Also the obstacles directly caused by differences between the two systems (command and market economy) started to settle and abate gradually, although, as some later studies indicated, changing the way of

thinking took much more time than expected (Entrepreneurial Strategies ..., 2004).

The questionnaires also asked the government's attitude towards entrepreneurs. Until 1993, entrepreneurs estimated the government's attitude to be repelling rather than supporting (in 1993 supporting only 8%), but by 1994 the number of entrepreneurs who considered the government's attitude at least neutral had risen to 56%, whereas those who thought the government supported entrepreneurs accounted for 7% only. It is interesting to notice that in 2000, on the basis of the annual public opinion poll, 57% of the respondents were of the opinion that the government had in general succeeded in the development of entrepreneurship over the last 10 years (1990–2000) (Riik ja rahvas, 2000).

Almost all entrepreneurship environment studies have investigated entrepreneurs' opinions about the factors limiting entrepreneurship. Though some problems have persisted over time (e.g., financing, taxes), several changes may be perceived in these opinions. If in earlier periods the major obstacles were direct needs (facilities, equipment, accounting, legislation), then in recent years, in connection with the stabilization of the economic environment and growing competition, the need to improve knowledge has become a priority (e.g. administrative skills, finding a business idea, business plan) (Eesti elanike ..., 2005).

The research results also indicate that Estonian entrepreneurs do not want to take big risks (fear of failure and debts; small role of bank loans in financing). Therefore, entrepreneurs are interested in training of both managers and employees (Jürgenson, 2003; Eesti elanike ..., 2005). The main obstacles here are connected with the high cost of training, replacement for employees taking courses and difficulties in finding properly qualified lecturers (Estonia ..., 2002).

In conclusion, the research on entrepreneurship and small business has been conducted with the support of external financing

and largely dependent on the activeness of the applicants during the period under study. Although the direct impact of this research on the entrepreneurship and SME policy has not been assessed, it seems that to some extent it is possible to find some links between the research and policy implementation. Regular research has been planned in connection with the opening of the European Union structural funds for Estonia (e.g., by the Ministry of Economic Affairs and Communications) with the direct objective to assist the development of entrepreneurship policy. Comparison of the research results along with evaluation of the processes of change in the business environment can provide a better understanding of the problems faced by entrepreneurs and help to improve the development of entrepreneurship and small businesses in Estonia.

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Appendix 1. Studies on entrepreneurship and small business, project partners and financing

Title of study, year	Project partners (international co-ordination and local partners)	Financing
Research on Entrepreneurship: Entrepreneurship Environment in Estonia and Entrepreneurs' Major Problems (1991–1994)	SARIE; CIPE; Estonian Association of Small and Medium-sized Enterprises (EVEA)	SARIE, CIPE
Regional Profile Study of Ida-Virumaa (1995)	Ministry of economic Affairs, Estonia; Ida-Viru County Government; COWIconsult, Denmark.	EU Phare
Regional Survey of SMEs (1996)	Ministry of Economic Affairs, Estonia; Emor Ltd, EIM International, Netherlands	EU Phare
Small-Scale Business in Estonia (1997)	Ministry of Economic Affairs, Estonia; Emor Ltd	EU Phare
Survey of Manufacturing SMEs (1998)	SME Phare team in Estonia, Ministry of Economic Affairs, Emor Ltd	EU Phare
The Survival, Growth and Support Needs of Manufacturing SMEs in Poland and the Baltic States: Developing Policy Agenda (1995–1996)	Middlesex University, CEEDR; Institute of Economics, Estonian Academy of Sciences	EU Phare ACE Program
Internationalisation, Inter-firm Linkages and SME Development in Central and Eastern Europe (1996–1997)	Middlesex University, CEEDR; Institute of Economics, Estonian Academy of Sciences	EU Phare ACE Program
EU Study on the Evaluation of Phare SME Programmes in Central and Eastern European Countries (1998–1999)	EU (RDH/LDK consortium)/ Institute of Economics, Estonian Academy of sciences	European Commission

Appendix 1 continued

Title of study, year	Project partners (international co-ordination and local partners)	Financing
Project "SME Internationalization" (1997)	Viljandi and Kohtla-Järve County Governments; Counties from Finland, Sweden, Ireland	EU Phare Ecos-Overture Program
Project "WOMEN XXI". Development of Female Entrepreneurship in Harju County, Estonia (2001)	Harju County Government, Estonia; Spain, Sweden, Finland, Italy	EU Phare Ecos-Overture Program
Changes in the Economic Environment and Entrepreneurship Development in Tallinn after Accession to the European Union: Problems and Measures (2001)	Tallinn City Government, Estonian Institute of Economics at Tallinn Technical University	Tallinn City Government
Development Problems and State Support Measures of SMEs in Estonia (2002)	Middlesex University, CEEDR, Ministry of Economic Affairs and Communications, Emor Ltd	Ministry of Economic Affairs and Communications
Entrepreneurial Strategies and Trust. Structure and Evolution of Entrepreneurial Behavioral Patterns in East- and West-European Environments (2001)	Research centre for East European Studies, Bremen; Rhine-Westphalia Institute for Economic Research, Essen, Germany; Tallinn University of Technology; UK, Italy, Russia.	Wolkswagen Foundation

15. ENTREPRENEURSHIP AND ITS ENVIRONMENT IN ESTONIA: AN OVERVIEW OF RECENT EMPIRICAL STUDIES¹

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Abstract

On the international arena, entrepreneurship has recently become a highly attractive topic for discussions. At present, however, entrepreneurship theory is still in the process of development: the related notions are abundant, the fields of study have a wide scope, and the research methods are subject to ongoing debate. Given this rich and varied theoretical framework, the author of the current article chooses a certain entrepreneurship definition and then focuses on related studies in Estonia, including only papers completed during the last years since 1999. (The studies involved are systematized in a table and appended). The following information was collected about the papers: general data of publication, keywords, methodology and results. The objective of this overview was to identify the developments and gaps in the entrepreneurship research done in Estonia. Additionally, the author summarizes the conclusions of the research papers discussed in this article. Thus the article will be useful for social science researchers looking for new research ideas, as well as for people wishing to get an overview of entrepreneurship research done in Estonia (policy makers, students, general public).

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Definition and categorization of the subject of entrepreneurship research

Prior to tackling the available studies on entrepreneurship in Estonia, let us clarify the definition of entrepreneurship and develop a method for conducting the analysis. The definition and possible domains of research are discussed and defined in this section, thereafter in the next section the method of approach is presented.

Entrepreneurship-related research has exploded in the last few years, caused by interest in the field from the macro- and micro-economic perspective. From the former perspective, entrepreneurship and innovation are said to increase nations' wealth and flexibility of economies, from the latter, organizational point of view, entrepreneurship and creativity enhance a company's competitiveness and diminish routines of work.

Definition. Various authors attach rather different meanings to the term "entrepreneurship". Some researchers choose a broad approach, implying under entrepreneurship the performance of small and medium-sized companies (Shane and Venkataraman, 2000; Venkataraman, 1997), but more often the interpretation is connected to the foundation of a start-up, or establishing a "small in size, technology based" firm (Vanderwerf and Brush, 1989). Even though entrepreneurship is frequently understood as a start-up process (this approach simplifies the research methods), it is widely accepted that entrepreneurship should also be applied to the existing firms, using the term "corporate entrepreneurship" or "intrapreneurship" (Sharma and Chrisman, 1999). It is clear that this largely varied understanding of the definition diminishes the possibility to compare the studies.

The problem with the definition is also relevant for Estonia. One can notice large differences in how the term is interpreted: the Estonian Business Code, for instance, interprets the term "entrepreneurship" (*ettevõtlus*) as a synonym to business activity. The

manifold definitions of entrepreneurship disorient both the general public and also researchers and students.

In the present article, defining the term "entrepreneurship", the author avoided choosing a single definition, preferring to follow a synthesized approach. According to Schumpeter (1934), who is considered to be the father of entrepreneurship theory, an entrepreneur is a person "who carries out new combinations". From this and other definitions the present author infers that entrepreneurship encompasses acts of organizational creation, renewal, or innovation that occur within or outside an existing organization (Sharma and Crisman, 2001; Schumpeter, 1934; Stopford and Baden-Fuller, 1994). This conception is certainly broader than mere creation of a new firm. It concerns not only the activity of a single person, but also corporate entrepreneurship, i.e. the action of a group creating new combinations.

Research domains. It is widely accepted that entrepreneurship research is important and necessary (Davidsson and Wiklund, 2001). The author could find only a small number of articles, which aggregated and analyzed the structure of the existing entrepreneurship research. The fields have been most explicitly discussed by Low and MacMillan (1988), Davidsson and Wiklund (2001), Vesper (1977), Wortman (1989). Unfortunately, their classifications do not cover all aspects of the rather comprehensive field of entrepreneurship. Some authors focus on the micro-economic perspective, leaving out the aggregate level and the evaluation of entrepreneurial support (e.g., Davidsson and Wiklund, 2001). Several earlier studies (e.g., Vesper, 1977), even though rather insightful, use such a definition of entrepreneurship which, due to insufficient attention to innovation, can be considered outdated by now.

Since there is no academically accepted uniform structure of entrepreneurial research, herein the author elaborates the structure, using the available classifications and combining them with emerging fields of entrepreneurship research (Table 1). Depend-

ing on the categorization criteria, there might be several classifications (Vesper, 1977; Wortman, 1989; Davidsson and Wiklund, 2001). Completing the table, the author's objective was to differentiate between the layers of research as much as possible, so that single studies would not overlap among several groups. The fields presented in the table can be additionally divided into more basic groups, starting from the individual level and finishing with the aggregate economic level:

individual → organization → aggregate economic level

Thus the studies corresponding to the first row of the table – “Psychology of entrepreneurs” – belong to research on the individual level, while the studies in “Economic development, state level” belong to the aggregate economic level.

Table 1. Domains of entrepreneurial research

Field	Brief description
Psychology of entrepreneurs	Mental makeup of entrepreneurs. Formal research articles or those with a judgmental or anecdotal nature.
Sociology of entrepreneurship	Entrepreneurs in various groups: cultural, gender, professional, etc.
Entrepreneurship support	Means and institutions to promote entrepreneurs and entrepreneurial environment, for example, the activity of an incubator.
Ongoing corporate development	Entrepreneurship within companies: the development of organizations from start-ups to large companies is analyzed.
Sector-based entrepreneurship	Sectors such as high technology and rural areas are studied. For example, geographically or by industry.
Economic development, state level	Aggregate level. Role of entrepreneurship in a country's economy and policy-making.

Sources: Compiled by the author on the basis of Davidsson and Wiklund, 2001; Vesper, 1977; Wortman, 1989.

Naturally, some studies may simultaneously belong to several fields presented in the table; to complete the classification, one can determine the focal topics (two or three) of a study.

Methodology for a survey of entrepreneurship studies

The central objective of this article is to present the major empirical studies on entrepreneurship and its environment in Estonia. Prior to her analysis of the empirical research, the author developed a framework for collecting information, according to which the following fields were tracked:

1. General information about each paper: the names of its first two authors, the title of the paper and the year of publication.
2. Keywords characterizing the theoretical and empirical parts of the research paper.
3. Methodology: the methods used for collecting data, brief description of the research object.
4. Conclusions of the empirical study about entrepreneurship in Estonia; three most important conclusions are usually presented.

The author examines studies carried out within institutions that do research on a regular basis, such as the University of Tartu, Tallinn University of Technology (academic institutions), and the Ministries. The analysis does not include institutions that presumably are not oriented towards economic and business studies, and business policy research.

The target objects of the analysis are studies whose titles contain "entrepreneurship"-related words (e.g., business development, innovation, starting business, SME development policies). Only most recent empirical studies are analysed, more specifically those whose results were published in 1999–2004. The year 1999 was not a random choice. Namely, 1999 was a turning-point since when the Estonian economy has been more stable (also the legal

system): enterprises began to recover from the 1998 Russian crisis, continuously reorienting their activity towards markets in Western countries. Increasing foreign direct investments and growing competition led to a higher rate of innovation and development of Estonian companies (Kuura, 2001); the banking system stabilized. Therefore during that period Estonia achieved rather stable and favorable conditions for the growth of entrepreneurial activities.

The analysis was conducted in November-December 2004. Most of the published studies were examined using the library resources and the Internet sites of research institutions. The databases on the Internet (e.g., the inter-library catalogue Ester) were used to detect the location of the research papers written at universities.

Exploration of the state of entrepreneurship over the last few years will provide an overview of the current situation of Estonian companies.

Results and discussions

41 research papers were found to match the methodological requirements of the present analysis. Their structured data are presented in the table in Appendix. The head of the Appendix table follows the methodological structure elaborated in the previous section. The papers are presented in the table in alphabetical order by the last name of the paper's first author.

Discussions of the findings are presented following the head of the results table in the Appendix 1.

General information. Most of the relevant publications on entrepreneurship in Estonia were available in print. However, some of the studies could not be found in Estonian libraries (for example, Hernesniemi, 2000; Romanainen, 2001) but can be downloaded from reliable web-sites, such as that of the Ministry of Economic

Affairs. The majority of the published studies were conducted on a stand-alone basis but there are several institutions that publish entrepreneurship-related studies regularly. Among the latter are:

1. Innovation studies. This quarterly issue is commissioned by the Division of Technology and Innovation of the Ministry of Economic Affairs and Communication. The publications usually present detailed results of studies related to technology, innovation support measures and institutions. The public sector is given a higher priority in this paper.
2. Report articles on the economic policy of Estonia (for example, Economic policy perspectives of Estonia in the European Union). Commissioned by the University of Tartu, this bi-yearly issue has a large chapter on the SME policy, which often includes a few articles on entrepreneurship studies in Estonia.

Considering the authors of the papers reviewed herein, it is noticeable that most papers related to innovation and technology have foreign experts as joint authors. Local authors usually conduct social studies and evaluate general policies on entrepreneurship. Most of the articles were completed by people who do research on a regular basis. The authors of the following Estonian institutions are presented in this analysis: the University of Tartu, Tallinn University of Technology, the Estonian Institute for Future Studies, the Estonian Market and Opinion Research Center (EMOR), etc.

Some papers that the reviewer came across had entrepreneurship-related titles and should therefore have been included in the present analysis. However, an analysis of their contents showed that several authors treated entrepreneurship as a synonym to small business, or to business processes in general, which did not coincide with the definition chosen for the current paper. So such papers had to be excluded from the analysis.

Keywords. The section "Research domains" (see above) proposes a classification of entrepreneurship research into six groups. The

next step is to compare the six groups with the available 41 research papers and analyze the distribution of the papers. The six groups of entrepreneurship research were subdivided into fields, corresponding to the keywords of the papers (Table 2).

Table 2. Number of works on the selected domains and keywords

Field	Keywords	Number of works
Psychology of entrepreneurs	The Entrepreneur, general	2
	Psychology (more formal), values, attitudes	1
Sociology of entrepreneurship	Sociological, general	3
	Generations of entrepreneurs	1
Entrepreneurship support	Education: schools, programs, sources	1
	Cooperation with org. of higher education	8
	Supportive public institutions	9
	Counseling on business development	4
	Venture finance	3
	General financial (banking, accounting etc)	2
Ongoing organizational development	Small Business Startup	2
	Corporate entrepreneurship	2
	Overviews of problems and needs	6
Economic sectors	Technology, R&D performing companies	5
	Public research institutions	2
	Regional	6
Economic development, state level	Economic development, general	5
	Evaluation of general SME policies	9
	R&D policies	5
	Cross-national comparison	5

Sources: Compiled by the author, see additionally the Appendix 1.

Naturally, entrepreneurship studies are not equally distributed. We notice that the fields most actively studied are related to

the environment of entrepreneurship: “entrepreneurship support” (27 studies), and “economic development via entrepreneurship” (24 studies). The least attention has been paid individuals-related topics, such as “the psychology and sociology of entrepreneurship”, as well as the ongoing organizational development.

The general conclusion would be: the present research focuses on indirect issues of entrepreneurship. However, it needs to be emphasized that the prime source of entrepreneurship is an individual, his/her mind, which develops in a specific social environment. It is not the individual, or social level that is receiving major attention at present, but entrepreneurship policies, technical support, and the aggregate economic level. The government is trying to develop the right policies and the right support measures, knowing little about the attitudes of individuals and about the entrepreneurial processes in organizations.

Counting the studies under the respective keywords, we notice (Table 2) that most research deals with public institutions and policies: 9 studies on supportive public institutions, 9 studies on the evaluation of SME policies, and 8 studies on cooperation with institutions of higher education. There are very few studies on how Estonian entrepreneurs think and how they became that way.

Despite the fact that the psychological and sociological domains are generally weakly studied in Estonia, the next domain – entrepreneurship support – has received considerable attention (27 papers). The weakness of this general field is its subfield “education: schools, programs, sources”, which was hardly ever studied at all over the last 6 years. For instance, there is no overview of what courses are run by the numerous institutions of higher education in Estonia. Nor has any cross-institutional evaluation been done.

Entrepreneurship has also been studied regionally. Unfortunately, only few counties were involved in particular research projects in 1999–2004.

To sum up, entrepreneurship is a rather popular topic in Estonian research circles, especially in the public sector research. The drawback is that the number of internal organizational surveys, analyses of entrepreneurial attitudes, and studies of the available educational programs is very small.

Methodology. The most popular method used to analyze entrepreneurship-related matters was an interview (28 cases). Conducted mostly in a free form, the interviews were targeted at experts (for example, politicians, professors, or managers of R&D performing companies). Sometimes interviews were an additional instrument to complete case studies. If the number of interviewed agents was relatively high (over *ca* 20), then usually a structured interview was conducted. The second most frequently used research method was a questionnaire (10 research papers). As a rule, the questionnaire texts were not attached to the research papers, but it can be concluded that the authors designed most of the questionnaires themselves, only 2 or 3 being translations of standard international questionnaires.

The largest sample questioned within an entrepreneurship-related study was the innovation-related study by Kurik, Lumiste *et al.* (4,267 respondents from different companies). It was followed by a survey of West-Virumaa enterprises (288 respondents) and a study distinguishing between various patterns of potential entrepreneurs (216 Estonian respondents). In some cases the authors used secondary data, for example, data from the survey of EMOR with 1,912 respondents. Unfortunately, in many cases (interviews or questionnaires), the authors do not clearly state the criteria for inclusion of respondents into the survey. Thus it is impossible to understand what the object of the study was.

With regard to statistical data processing applied in the studies based on questionnaires, the conclusion is that no other methods than descriptive statistics are used. For instance, the authors do not use ANOVA, correlation matrixes, or factor analysis, but

restrict themselves to presenting means of the data, grouping by sector, by size of companies, etc.

The majority of the papers study the public sector, concentrating on matters like evaluation of policies, public entrepreneurship support institutes, as well as research institutes such as universities. The next most frequently studied object is companies. The usual approach is to ask companies about entrepreneurship-related issues (Dsiss, Murakas *et al.*, 2001; Kurik, Lumiste *et al.*, 2002). There are no questionnaire-based high-quantity studies of specific sectors (e.g., biotechnology); such specific sectors are mostly analyzed from the point of view of public support.

The author could detect no studies on intrapreneurship and found very few studies dealing with social issues of entrepreneurship (values, attitudes). Evidently, collecting economic information may be slightly easier than preparing and carrying out sociological and psychological research. Interviewing only a few experts is certainly easier than questioning representative samples of organizations and individuals. Nevertheless, it is necessary for research institutes to use consistent methodology to study entrepreneurship in Estonia.

Conclusions. It has to be admitted that the choice of conclusions presented in the Appendix table is somewhat subjective. Several papers have a more than 10 pages long chapter with conclusions. The author therefore had to choose and usually gave preference conclusions which were not overly self-evident, or trivial, such as "RTDI financing is low" (Hernesniemi, 2000); and which presented problematic, specific issues.

To generalize the conclusions, the author used Table 2 (see above) presenting the distribution of studies on entrepreneurship. Since it may be unreliable to make generalizations about the topics that have been studied only by a few researchers, the author generalizes the conclusions only for those topics that have been investigated in more than 5 studies. In this way, five subfields of

entrepreneurship research were chosen and the conclusions are presented in Table 3.

Table 3. Frequently drawn conclusions in the reviewed research papers

Domains of research	Conclusions
Cooperation between higher education and businesses	<ol style="list-style-type: none"> 1. There is lack of industry-education cooperation: mismatch of education programs and research activities. 2. Lack of professionals prepared by local higher edu sector, small influx of young scientists. 3. Research activity is under funded, insufficiently interdisciplinary, equipment is often outdated.
Entrepreneurship-supporting public institutions	<ol style="list-style-type: none"> 1. Institutions have too few experts to provide the necessary services. 2. The effectiveness of Enterprise Estonia services needs to be screened. 3. Services provided by incubators are mostly low value-added.
Overviews of SME problems and needs	<ol style="list-style-type: none"> 1. Motivation of managers to cooperate with support and higher education institutions is low. 2. There is lack of information on networking possibilities. 3. The current business policy does not favor knowledge-intensive start-ups.
Regions, counties	<ol style="list-style-type: none"> 1. The entrepreneurship surveys are conducted in only a few counties: Tartu, Harju, Viljandi. 2. The innovative activity has strong regional differences, being concentrated in Harju and potentially in Tartu counties.

Additionally to Table 2, it was possible to conclude that innovative activity is relatively low in Estonian companies. The conclusions presented in Table 3 may refer to the reasons for that.

There are about 10 studies dedicated to the evaluation of the Estonian Innovation System: the role of entrepreneurship-supporting

public institutions, RTDI policies, etc. One can draw several conclusions on the basis of these studies. It is mentioned that an important obstacle to innovation in Estonian companies is the lack of cooperation between companies and the educational sector. For instance, the research done at universities only rarely matches the interests of local companies (Innovation policy profile, 2001); moreover, universities do not adjust their educational programs to the needs of the local companies. For example, neither universities nor company-support institutions offer relevant training in innovation management. On a more general level, the universities fail to release sufficient numbers of engineers and professionals. (Romanainen, 2001; Nedeva and Georghiou, 2003).

Not only entrepreneurs are dissatisfied with cooperation with universities, but there is also a lack of networking with other institutions (Dsiss *et al.*, 2003). Innovative companies, for which it is often vitally necessary to go abroad, experience difficulties with finding suitable networking partners. Unfortunately, entrepreneurship-supporting institutions are incapable of offering consultancy in their specific field (e.g. Hernesniemi, 2000). The studies show that the problems of entrepreneurs are not confined to lack of information about networking, but also include more basic difficulties, such as the unfavorable legal system, insufficient sources of start-up capital, etc (Eesti ..., 2004; Riigi tegevus ..., 2003).

Currently, the entrepreneurial conditions are surveyed only in a few counties of Estonia. From the country-based surveys it appears that most of the innovative activity is centered on Harju county (Kurik *et al.*, 2002; Terk and Raagmaa, 2004). Thus governmental measures would be needed to improve the situation. It appears from numerous surveys, however, that so far political measures have proved to be rather ineffective in fostering entrepreneurship and innovation across the country. Various policies are often weakly interrelated and have no realistic implementation plans (e.g. Riigi tegevus ..., 2003).

Recommendations

One has to admit the limitations of the present overview: firstly, some studies have probably been overlooked, secondly, the brevity of the paper has forced the author to leave aside some less valuable considerations, thirdly, the presented studies are of a considerably diverse quality – some conclusions are based on interviews with only a few people. Thus, when making generalizations, the information presented in the Appendix table should be handled with caution.

Summarizing the discussions of the surveys, it is clear that the studies of the recent years are biased towards the public matters of entrepreneurship: policies, support institutions, education centers. Unfortunately, even though the problems are rather clear in this field, little is being done to improve the situation. Therefore it might be necessary to familiarize a wider political audience with the results of the studies and motivate institutions to orient themselves towards measurable results.

Concerning the research fields that are studied less than characteristic of international practices, it is necessary to focus on the following:

- Entrepreneurship from the sociological and psychological points of view: attitudes, values, and influence of societal groups on existing and potential entrepreneurs,
- Sector-specific businesses and their problems,
- Available entrepreneurship-related educational programs and pedagogy in Estonia, mapping available competencies on the higher, vocational, and other educational levels.

It is most important not to merely study these matters, but also to disseminate the results to carefully chosen target groups and start acting to solve the problems revealed.

In view of the methodologies, the studies could be more analytic, not restricted to surveys, but expanded to in-depth evaluation,

comparison, suggestions and promotion of the possibilities for improvement. It is especially important that the provided suggestions should be neither too general nor self-evident. Unstructured interviews should not be the major but rather a supportive informational source.

Several surveys show that the effectiveness of present entrepreneurship-supporting policies and institutions needs to be improved; more attention should be paid to pragmatic support policies and explicit monitoring of supportive institutions. It was also revealed that an important source of innovation – centers of higher education – are relatively uncooperative with businesses. Consequently, it will be necessary to influence the remuneration policies of major institutions and to review the programs they offer (in terms of their content and pedagogy).

Entrepreneurs in Estonia face a number of difficulties, some of which are explicitly studied and others are yet to be revealed. It is essential to deal rationally with the detected problems and choose such research methodologies that will help find out what obstructs long-term entrepreneurial development.

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Appendix 1. Systematized studies on entrepreneurship in Estonia

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Deutsche Direktinvestitionen in Estland: Motive, Erfahrungen und Chancen (1999)	German direct investments, business opportunities in Estonian business environment	Questionnaire	46 German-Estonian joint ventures	<ol style="list-style-type: none"> 1. Low labor costs, liberal economic policy and qualified personnel attract German investments. 2. Negative factors are smallness of the market, shortage of labor, and bureaucratic problems.
Dsiss, H., Kingumets, J. <i>et al.</i> , Tartumaa ettevõtlus (2003)	Tartu county, SME-s, sociological study, business environment	Structured interviews	200 enterprise managers from Tartu county	<ol style="list-style-type: none"> 1. Cooperation with SME support and educational institutions is unimportant for majority of businesses. 2. There is lack of professionals. 3. Sole entrepreneurs mostly involved in agriculture.
Dsiss, H., Murakas, R. <i>et al.</i> , Lääne-Virumaa ettevõtlusuuring (2001)	Investment climate, West-Virumaa, entrepreneurial policy, innovation, municipality	Interviews, questionnaire	288 enterprises that operate in Lääne-Virumaa	<p>Description of:</p> <ol style="list-style-type: none"> 1. The investment climate in Lääne-Virumaa. 2. The role of municipality in business development. 3. Labor and innovation issues of responding companies.
EC DG Enterprise. European Trend Chart on Innovation. Theme-Specific Country Report. Estonia (2003)	IPR, entrepreneurial innovation, innovative clusters, cluster policy	International methodology, details n.a.	Based on secondary data, details n.a.	<ol style="list-style-type: none"> 1. Patenting activity is very low in Estonia. 2. Description of the Estonian Innovation system.
Entrepreneurship and Enterprise Development in the Baltic Region (2000)	Regional development, Baltic states, North-West Russia, economic policy, enterprise promotion	Workshops	6 themes on development of entrepreneurship	<p>Guidelines and recommendations in 6 themes:</p> <ol style="list-style-type: none"> 1. Institutionalization of SME policy. 2. Regulatory framework and the informal economy. 3. Tax policy. 4. Financial instruments for start-ups and SME-s. 5. Advisory services. 6. Regional and local enterprise promotion.

Appendix 1 continued

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Estland: Marktchancen und praktische Tipps: ein Handbuch für Geschäftspraxis und Investitionen (2003)	Estonian economy, labor market, infrastructure, starting business, practical information	Analysis of statistics, legislative acts, programs	Statistics on Estonian economy, legislative acts, information about Estonian industries	Overview of the following subjects: foreign trade, investments, labor market, financial sector, infrastructure, starting a company, taxes.
Ettevõtlus Eestis (1999)	General business environment, economic sectors	Statistics, experts' opinions	Estonian economy, various industries	Description of: 1. Estonian economy. 2. Relations between employers and employees. 3. Estonian industries.
Hernesniemi, H. Evaluation of the Estonian Innovation System (2000)	Innovation system innovation support structures, technology policy, RTDI funding	Interviews	Estonian innovation system	1. The need for higher RTDI investments is not highly ranked among political decision-makers. 2. Politicians do not possess sufficient information about innovation and technology management. 3. Technology supporting and bridging organizations have too few experts to provide necessary services.
Innovation Policy in Six Candidate Countries: the Challenges. Innovation Policy Profile: Estonia (2001)	Innovation awareness; legislative, administrative environment, support of business innovation, innovation potential	N.a. Presumably expert interviews	Estonian innovation system	1. Historical overview of Estonian innovation system and several studies. 2. Available research staff does not match the needs of developing Estonian firms, their productivity and innovation. 3. Estonian legislation does not favor technology based companies. 4. Company managers lack managerial <i>skills</i> ; there is need to improve cooperation between industry and educational institutions to improve the quality of training and offer training on innovation management.

Appendix 1 continued

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Jager, D., Sowden, P. et al. , Competence Centre. Feasibility Study (2002)	Estonian innovation system, role and activities of competence centers, research and development, project report	In-depth interviews, screening of existing studies, workshops	Estonian and foreign experts, 4 university's spin-offs, 16 R&D performing firms	<ol style="list-style-type: none"> 1. EAS needs to be more proactive, restructure its services, and develop evaluation mechanisms. 2. Innovation, technology, investment, SME policies have to be more interlinked. 3. R&D-based enterprise cluster is small because of lack of trained engineers, science-industry cooperation, info about networks. 4. University' staff lacks orientation on result, has low skills in project management and commercialization.
Menrad, K., Böhrlen, B. et al. , Research on the Estonian Biotechnology Sector Innovation System (2002)	Biotechnology innovation system: companies, education, finance; benchmarking, recommendations	Interviews, case studies	Estonian biotechnology innovation system	<ol style="list-style-type: none"> 1. Description of biotechnology innovation system. 2. The critical mass required for developing a sustainable biotechnology sector has not yet been achieved. 3. Several recommendation on developing innovation system.
Kaarli, R., Laasberg, T. Research and Development in Estonia 1996–1999: Structure and Trends (2001)	R&D, financing, human resources, patents	Case study, analysis of statistics	Financing institutions, state programs, Estonian innovation system, patents	<ol style="list-style-type: none"> 1. Some fields of science are insufficiently interdisciplinary and have outdated material base. 2. R&D infrastructure is often inadequate for the needs of technological development. 3. Estonian innovation system is weak; leading, bridging and supporting institutions are underdeveloped. 4. The society and politicians have not yet realized the importance of R&D development, a small influx of young scientists.

Appendix 1 continued

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Kaseorg, M., Sakk, A. Praktilise ettevõtlusalase koolituse roll Eesti väike-ettevõtetes tabelarvutus-süsteemi toetusel	Entrepreneurship training, small enterprises, computer-based courses	Questionnaire	Students at Tartu University FEBA and Narva College	<ol style="list-style-type: none"> 1. Computer-based (Excel) training was useful for the students. 2. There is a demand for more frequent use of computer while training.
Kurik, S., Lumiste, R. et al. , Innovatiivne tegevus Eesti ettevõtetes 1998–2000 (2002)	Innovation, industry and service sector, SME-s and micro-enterprises, large sample	Questionnaire	3490 SME-s and 777 micro-enterprises	<ol style="list-style-type: none"> 1. 1/3 of enterprises has done process or product innovations. 2. 3/4 of companies conducted innovations on their own, 1/4 in cooperation with other institutions. 3. 14% of innovative companies have developed new product for the market.
Kurik, S., Terk, E. et al. , Tallinna ja Harjumaa ettevõtjad Eesti-Soome integratsioonist (2002)	Regional integration, entrepreneurial environment in Estonia, Finland	Structured interview, analysis of statistics	Managers of 46 companies in Estonia	<ol style="list-style-type: none"> 1. Estonian entrepreneurs are tuned positively towards the Finnish business environment, but have little objective information about it. 2. It is difficult to enter the Finnish market with final product, co-operation is sought.
Kuura, A. Euroopaliku regulatsiooni mõju ettevõtluskeskkonnale (2001)	European business regulations, business development	Qualitative analysis	Code of Commerce, Business Register, European business regulations	<ol style="list-style-type: none"> 1. Clarification of definitions in Estonian: entrepreneur, entrepreneurship and enterprise. 2. The business register has to be re-established. 3. EU regulations diminish number of joint stock companies.

Appendix 1 continued

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Kõomägi, M. Riikliku riskikapitalifondi asutamise vajalikkus Eestis (2004)	Small enterprises, state supported venture capital,	Qualitative analysis, comparison with EU venture capital funds	SME statistics, data on venture capital in Estonia	<ol style="list-style-type: none"> 1. There is no satisfactory venture capital (VC) system in Estonia. 2. It is necessary to do research in the field of VC, its development and coordination. 3. Recently initiated state-guaranteed VC has too specific, narrow orientation.
Lange, L., Bruin, G. et al., Access of Enterprises to Venture Financing in Estonia: Feasibility Study of Government Support Scheme (2004)	Funding of enterprises' development; pre-seed, start-up, growth, expansion companies; funding scheme options, recommendations	Interviews	Public institutions, financial institutions, research centres, companies	<p>The existing funding structure has several shortcomings. There is need for promotion of:</p> <ol style="list-style-type: none"> 1. Entrepreneurial values in the society. 2. Transfer of entrepreneurial competences and experience. 3. Institutional collaboration between public and private organizations.
Melin, K. The Entrepreneurial Intentions and their Background in Estonia and Finland – A Comparative Study in Selected Vocational Schools (2002)	Entrepreneurial attitudes, vocational schools, comparison of Finland and Estonia	Questionnaire	Students at vocational schools: 215 in Estonia, 281 in Finland	<ol style="list-style-type: none"> 1. The attitudes of Finnish students are more entrepreneurial: they are more proactive and can cope with uncertainty. 2. Estonian students are more creative, focused on achievements, their motivation is mainly money and continuous learning. 3. Estonian respondents are rather single player: team entrepreneurship is unpopular.

Appendix 1 continued

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Nedeva, M., Georghiou, L. Assessment of the Estonian Research and Development Technology and Innovation Funding System (2003)	Evaluation of innovation system, RTDI funding, best practice	19 interviews, a workshop	Ministries, funding agencies, research institutes, universities, industry	<ol style="list-style-type: none"> 1. RTDI funding is ineffectively split in two disconnected parts: basic research (universities) and applied research (industry). 2. There is a strong need for bridging these two parts. 3. Four major problems: duality of RTDI, under funding of research institution, aging research (innovation) community, obsolete research equipment.
Oitmaa, K. The Integration of Estonian SME Policy with the European Union SME Policy (2001)	SME policy measures, business development, harmonization of laws	Qualitative analysis	Business policies, European business regulations	<ol style="list-style-type: none"> 1. The incumbent government's SME policy priorities are: internationalization, regional business support, innovation and technological development. 2. There is no official SME policy document. 3. The business support system has to be improved.
Overview of Research, Technology Development and Innovation Policy in Estonia (2003)	Innovation policy, macroeconomic trends, science-industry relation			<ol style="list-style-type: none"> 1. It is necessary to support research-intensive start-ups through reducing the cost of capital and due diligence activities. 2. More innovation-related services and consultancy have to be offered to enterprises.
Porschlegel, T. Estonia. Economic and Human Resources Development Project. CARIN (2001)	Tartu city, innovation program, technology transfer	N.a. Presumably experts' interviews	Tartu innovation system: science park, university etc.	Description of: <ol style="list-style-type: none"> 1. Key players in the Tartu innovation system. 2. The innovation projects running in Tartu.
R&D and Innovation Statistics in Candidate Countries and the Russian Federation. (2002)	Statistics on European countries, innovation indicators, R&D personnel, manufacturing and service sector	Questionnaire, review of statistics	97 RD performing companies, 36 govern. and 32 scientific institutions	Statistical data in comparison to other European countries: <ol style="list-style-type: none"> 1. R&D expenditures. 2. R&D personnel. 3. Innovations.

Appendix 1 continued

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Raudjärv, M. Ettevõtluskeskkonna ja hariduskorralduse mõnedest majanduspoliitilistest aspektidest (2003)	Policies and business environment, higher and vocational education	Secondary data, telephone interviews, statistics	Educational institutions, business-related policies	<ol style="list-style-type: none"> 1. The necessary change of vocational education's system has only recently come under discussion. 2. Pärnu county has a diverse educational system.
Reid, A., Kurik, S. Optimizing the Design and Delivery of Innovation Policy in Estonia (2003)	Evaluation: innovation policy, ESTAG schemes, support for RTDI. Structural funds.	Interviews, case study (ESTAG)	Estonian National innovation policy instruments, ESTAG schemes	<ol style="list-style-type: none"> 1. The current centres of excellence need to clarify their objectives, processes, evaluation procedures etc. 2. The existing RTDI infrastructure appears to be adequate for disbursement of the EU structural funds. 3. The need to develop a sector/cluster technology diffusion. 4. EAS activities need additional monitoring and evaluation.
Reid, A., Kurik, S. Optimizing the Design and Delivery of Innovation Policy in Estonia (2003)	Innovation policy instruments, RTDI funding, technological development	Interviews, case studies	ESTAG grant and loan schemes, RTDI policies, industry, universities	<ol style="list-style-type: none"> 1. Mismatch: ESTAG is focused on supporting product development, whereas companies mainly do process innovation. 2. There is neither early-stage capital nor pro-active consulting for technology-based firms. 3. No research has been done into the provided innovation-related competences.
Riigi tegevus raha suunamisel ettevõtluse toetamiseks: kontrolliaruanne (2003)	State audit report, state support of entrepreneurship	Qualitative analysis	Ministries' activity, existing supporting policies and programs	<ol style="list-style-type: none"> 1. The principles for entrepreneurship support are unclear (objectives, resources etc.). 2. The support programs overlap, have unclear implementation, should be better coordinated. 3. Multitude of SME supporting institutes diminish system's effectiveness.

Appendix 1 continued

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Romanainen, J. Technology Policy in Estonia: System Planning and Development of Implementing Agency (2001)	Establishing of ESTAG, measure of technology policy, innovation policy	Interviews, workshops	Members of EAS, Ministries of Economic Affairs, Education, Finance; Finnish consulting company	<ol style="list-style-type: none"> 1. Long-term RTDI policies are too general, the implementation (resources and processes) are not specified. 2. Also traditional and low-tech companies should be reflected in policies. 3. Lack of awareness of innovation results in poor collaboration between university and industry.
Rozenhal, V. 40 Eesti nokiad: nutikad äriideed elust enesest (2003)	Implemented business ideas, small enterprises	Case studies, interviews	40 small profitable businesses, business ideas	Description of 40 inventive business ideas developed by Estonian authors.
Rouwamaa, V., Reid, A. I., Kurik, S. Business Incubation: Review of Current Situation and Guidelines for Government Intervention in Estonia (2003)	Benchmarking in incubation, technology based incubators, characteristics of Estonian incubators	Case study, questionnaire	Tallinn Technology Park Incubation Centre, Jõhvi BIC, Rāpina BIC, Tartu Science Park, Tallinn College of Engineering Incubator	<ol style="list-style-type: none"> 1. Lack of laboratories and well-equipped workshops for tenant users. 2. Their sub-critical size diminishes sustainability of incubators. 3. The incubators have weak business idea, no clear target group, weak networking (isolated). 4. Only basic, unintegrated business support services are offered.
Sellilov, R. The Main Development Constraints Perceived by Small and Medium-Sized Enterprises in Estonia (2004)	Estonian SME, perceived development constraints, EMOR survey	Secondary data	1912 enterprises	<ol style="list-style-type: none"> 1. For companies, which develop technology, financing is especially problematic. 2. Small companies (10–49 employees) have difficulty in finding the market and financing sources. 3. Large enterprises, also from manufacturing and construction sector experience problems with finding skilled employees.

Appendix 1 continued

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Small and Medium-Sized Enterprises in Countries in Transition (2003)	SME legislation, SME supporting measures and institutions, business environment	Questionnaire, qualitative analysis of statistics	Legal systems, SME supporting institutions and schemes	<ol style="list-style-type: none"> 1. Brief description of Estonian SME support system: institutions, supporting measures. 2. Brief SWOT of Estonian business environment.
Teder, A., Teder J. Eesti ettevõtjate liigitus ettevõtjaks kujunemise tõukejõudude alusel (2003)	Classification of entrepreneurs, several rounds of survey, change of entrepreneurial environment	Structured interview	300 entrepreneurs in 1994–1996, 216 entrepreneurs in 2000–2001	<ol style="list-style-type: none"> 1. In comparison with early 1990s, more capital and experience needed to start business today. 2. Recently the second-generation of entrepreneurs in a family business has emerged. 3. The proportion of persons who start business they do not have experience in has fallen.
Teder, A., Teder, J. Väikeettevõtlus Eestis: roll ja probleemid (2001)	Small business, role in economy, problems		Secondary data, statistics	<ol style="list-style-type: none"> 1. 74% of all enterprises in the Business Register are micro-enterprises (up to ten employees). 2. The average number of employees in companies is diminishing. 3. There are strong regional differences in business activity.
Terk, E., Raagmaa, G. Ettevõtluse võimalused maakondades (2004)	Counties, SME policy	Seminars, discussions	Entrepreneurs, municipalities' agents, journalists	Analysis of the regional development and SME activities in the 15 counties.
Tuutma, T. Rahvusvahelised ettevõtlusuuringud ning ettevõtlusalase statistika korraldus. Master Thesis (2004)	SME statistical system, international entrepreneurship surveys	N.a.	SME statistical system	<ol style="list-style-type: none"> 1. Estonian SME statistical system is in accordance with the EU one. 2. The entrepreneurial indicators are not studied. 3. Statistics on self-employed entrepreneurs has to be improved.

Appendix 1 continued

Author, Title, Year	Keywords	Methodology of empirical study		Selected results, conclusions
		Type of Analysis	Data (object or sample)	
Undrits, A. Ettevõtluse riiklik toetamine Eestis: senine areng, hetkeseis ja täiustamise võimalused. Master Thesis (2004)	SME policy, governmental support of entrepreneurship	N.a.	Support schemes of entrepreneurship	<ol style="list-style-type: none"> 1. Overview of entrepreneurship development. 2. Shortcomings of the SME policy: overlapping objectives, unclear implementation and evaluation processes. 3. Several suggestions about improvement of SME support system.
Venesaar, K., Kolbre, E. The Role of Trust in Business Relations in Estonia (2004)	Business development, inter-firm relationships	Questionnaire, case studies	N.a.	<ol style="list-style-type: none"> 1. Business relations became more stable and predictable since independence. 2. The managers value long-term relationships. 3. In intra-firm regulation the managers rely on institutional regulation.
Värno, K. Awareness and the Usage of Business Support Measures by SME-s in Estonia (2004)	State business support measures, SMEs, awareness and usage of support	EMOR 2002 survey, phone interviews	1912 companies	<ol style="list-style-type: none"> 1. The awareness of support measures is rather low, but 65% of respondents have heard of the measures. 2. Only 2% of the respondents have used support measures. 3. The information about the measures should be more readily available.
Оптимальная практика организации работы бизнес-инкубаторов (2001)	Business environment, legislative aspects, incubation	Analysis of statistics, questionnaire	Business incubators: services and clients	An overview of the clients and services of business incubators.

Comparing a windsurfer with an entrepreneur we will find much in common: both like taking risks and overcoming obstacles, and feel responsible for where and how they go. In order to skillfully balance on the wavecrests of ocean or sea waters, or economic cycles, they need to seize the opening opportunities and navigate boldly, making good use of the winds and waves.

Entrepreneurial initiative – so important for the economy of any developed country – has for historical reasons a relatively short record in Estonia. This book aims to bring together the local entrepreneurship-related knowledge accumulated by researchers at two major universities of Estonia – the University of Tartu and Tallinn University of Technology, providing an overview of entrepreneurship policies, practices, education and research in Estonia.



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