

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

Tõnis Mets
University of Tartu

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:

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

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.

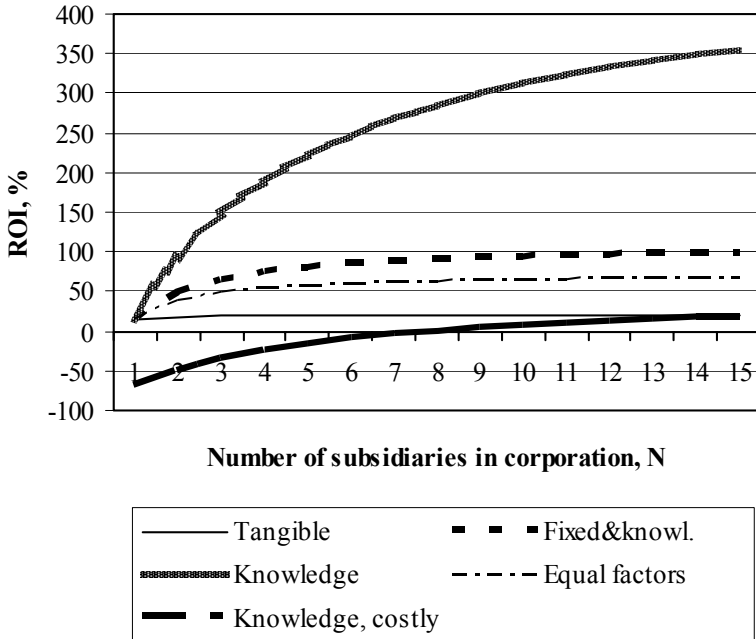


Figure 1. The profitability ROI of different types of investment depending on the number of subsidiaries in corporation N .

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.

References

- Alexandrova, M.** (2004). Entrepreneurship in a Transition Economy: The Impact of Environment on Entrepreneurial Orientation. *Problems and Perspectives in Management*, pp. 140–148.
- Bartlett, C. A. and Ghoshal, S.** (2002). *Managing Across Borders. The Transnational Solution*. 2nd ed., Boston, Massachusetts: Harvard Business School Press.
- Formica, P.** (2003). *Industry and knowledge clusters. Principles, Practices, Policy*. Tartu: Tartu University Press.
- Ghoshal, S. and Bartlett, C. A.** (1999). Building the entrepreneurial corporation. In: *Handbook of Management*. London: Financial Times, pp. 39–63.
- Goldstein, M. L.** (1998). Making The Modern Model. Structuring corporations for competitive advantage. *Industry Week*, September 21, pp. 75–80.
- Gupta, A. K. and Govindarajan, V.** (2001). Converting global presence into global competitive advantage. *Academy of Management Executive*, 15, 2, pp. 45–58.
- Hamel, G. and Prahalad, C. K.** (1993). Strategy as Stretch and Leverage. *Harvard Business Review*, March-April, pp. 75–84.
- Handbook of Management.** (1999). London: Financial Times.
- Jennings, D. F. and Hindle, K.** (2004). Corporate Entrepreneurship and Equifinality: An Empirical Analysis of Strategy-Structure-Performance. *Academy of Management Best Conference Paper*.

- Johnson, L. K.** (2005). Manage Like an Entrepreneur. Debriefing William Sahlman. *Harvard Management Update*, pp. 3–4.
- Knowledge-Based.** (2002). Estonia. Estonian R&D Strategy. Tallinn.
- Kubr, M.** (Ed.). (2002). *Management consulting: A guide to the profession*. 4th ed., Geneva: ILO.
- Lengnick-Hall, M. L. and Lengnick-Hall, C. A.** (2002). *Human Resource Management in the Knowledge Economy*. San Francisco: Berrett-Koehler Publishers, Inc.
- Mets, T.** (2003). Coordination of knowledge and competence. In: Vadi, M. (Ed.), *Organisational culture in Estonia: Manifestations and consequences*. Tartu: Tartu University Press, pp. 256–270.
- Nauwelaers, C. and Reid, A.** (2002). Learning Innovation Policy in a Market-based Context: Process, Issues and Challenges for EU Candidate-countries. *Journal of International Relations and Development*, 5, 4, pp. 357–379.
- Neuman, T.** (2002). Interview, 10th September, interviewer – T. Mets.
- Nonaka, I., Toyama, R. and Konno, N.** (2002). SECI, Ba and Leadership: a Unified Model of Dynamic Knowledge Creation. In: Little, S., Quintas, P. and Ray, T. (Eds.), *Managing Knowledge*. London: Sage Publications, pp. 41–67.
- Rodrigues, M.** (Ed) (2002). *The New Knowledge Economy in Europe. A Strategy for International Competitiveness and Social Cohesion*. Edward Elgar.
- Tiits, M.** Towards modern STI policy-making in Estonia. *TRAMES*, 2003; 7, 1, pp. 53–62.