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Learning Managers in a Transforming Economy

The Case of Russia 1999 – 2006

ACADEMIC DISSERTATION
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Abstract

The radical social and economic reforms developed in Russia from the beginning of the 1990s in many respects confirm the substantive provisions of the transition theory. Major actors in Russian economic and social life have undertaken significant efforts to generate institutions similar to those which regulate economic and social life in the advanced western countries.

In this regard, an acute problem in the formal and informal training of managers has arisen. The study aims to identify and analyze these problems. Many of the problems of managers training manifest themselves in the period of transition of firms towards innovative development. Accordingly, the main research question posed in the study: what obstacles must be overcome for the successful development of managers' training, and what is the role of innovation systems in the development of managers training?

The wide-scale Presidential Programme for the Training of Managers for the Russian Economy, has been an important source of information for revealing the problems of managers' training. More than half of graduates in this program have been trained abroad. The analysis of training abroad showed that correctly organized exchange of professional experience, sharing the experience of the advanced western firms could yield valuable results.

During the empirical research of 270 firms in 2006 it was possible confirm the high capacity of the system of informal education for the professional training of managers, which provides training through practical work and through the exchange of experience. The development of innovation systems was demonstrably the strongest factor for the improvement of formal and informal training. A questionnaire study of the managers of 982 firms in various branches of the economy of St. Petersburg and the Leningrad Region conducted in 2001 was devoted to the influence of innovation systems on managerial training. Managerial training serves as an element in the chain of reproduction of social capital. The study revealing mechanisms of the functioning of social capital, were largely based on the theory of modernization.

The very transition to an innovational way of development of the region, carried out purposefully, equipped managers with convincing knowledge of the absolute necessity to include their firms in innovational networks and to master new technologies of management, including innovative management.

Both now and furthermore in the future innovational networks increasingly appear to be an effective resource and a tool for training managers. Accordingly, nowadays, the correct construction of a system of managerial training should ensure a purposeful connection of both the formal and informal training of managers into a uniform system. In this system both kinds of training should be coordinated and effectively supplement each other.

The study revealed that the trust of managers in the basic actors of economic and social life of the country was then at a very low level. This low level of trust significantly

impaired the effectiveness of managers, impairing the effectiveness of formal and informal training. To enhance the effectiveness of both formal and informal training of Russian managers, there is a need to further develop the processes of transition, to actually form an innovation economy, to raise the level of trust of managers in the basic actors of economic and social life.

Keywords: management, training of managers, formal training of managers, informal training of managers, managerial practices, innovation systems

Contents

Introduction

1. The main goal of the research

The main goal of the research is the analysis of relations between the innovation activity of firms and the actions of their managers in a global system of economic (business administration) education in a transitional economy during radical Russian reforms, regarding both formal and informal types of education It is intended to reveal the patterns on which development of these relations depends, likewise to reveal typical dysfunctions and problems in this process. The research includes empirical analysis based on several types of data from firms investigated in the St. Petersburg region.

This goal was chosen because the innovation process in a region can only be effective if supported by an effective system of training managers, specialists. The development of innovative training system results in an increase of innovations in industry, and economy of the region as a whole.

2. Background of the research and its main stages

The active participation of the author in the study of the development of management in Russia, and also in study of system of vocational training of managers can be divided into four stages.

The first stage

The first period of scientific activity of the author lasted from 1989 to 1995. At this time the author carried out a study on both the reasons for the development of management in Russian companies and problems in the systems for training managers. The study was based on transition theory. In particular, a noticeable reorientation of Russian managers from values essentially interpreted as traditional to market values was revealed. This reorientation was empirically found by the author due to active participation in the project 1994–1995 “Russian Managerial Values in a Transitional Economy”, supported by the Sida Foundation, Sweden. The head of this project was Dr. Sari Scheinberg, Professor of Chalmers University, Sweden and Director of Recomate company.

The second stage

The second period is connected to the study conducted by the author on the results of participation of St. Petersburg managers in the Presidential Program from 1996 to 2001. The research of this period as well as that during the first period is based to a significant degree on the theory of education, on the theoretical positions developed in

publications by R. Akoff, L. Hicks, P. Senge (Senge 1990), M. Gibson (Gibson 2004). Among Russian authors it is possible to name works by A.J. Afonin (Afonin 2004) and J.G. Volkov (Volkov 1997, 56–66).

Due to the research of this period the author identified essential confirmation of the transition theory, theories of modernization, due to changes in the Russian economy and in Russian society. In result, this situation has also confirmed the ideas of the theory of transformation and the theory of modernization about high value of social capital, which in modern conditions is contained in information, in a well-advanced system of training, in the vocational training of managers.

During the period 1998–2001 the author actively participated in the project "Reserves of increase of efficiency of preparation and use of managers in interests of organizations of the St. Petersburg region" supported by the Committee for Economic Development, Industrial Policy and Trade of the administration of St. Petersburg.

During the empirical research it was possible confirm the high efficiency of the system of informal education for the professional training of managers, which provides training through practical work, through an exchange of experience.

The third stage

It became obvious that the demand for the innovational development of industry and regional economy in a whole is a strong stimulus for the improvement of the managerial training. The interconnection of the innovation development and training of managers was analysed during the third stage. At this time, the theory of modernization, the scientific positions developed by such authors as R. Inglehart* (Inglehart 1997), C. Black (Black 1966), P. Berger (Berger et al. 1973), S. Dube (Dube 1988), O. Leibovitch (Leibovitch 1996), V. Fedotova (Fedotova 2000) and N. Naumova (Naumova 1999) served as a theoretical basis for the research.

At this time the author took part in two projects supervised by Professor Gerd Schienstock. The first, "Innovation Networks and Industrial Modernization: A Study on Armenia, Latvia and Russia (St. Petersburg region)" was carried out 1998–2000, and was funded by the EU (INCO-Copernicus).

The second project of the mentioned third research period – is "R&D and Production Systems in Transition: A Study on Russia and St. Petersburg". It was carried out 1999–2001 and was supported by the Academy of Finland. This research confirmed that innovational networks appear more and more to be an effective resource and a tool for training agents of production, and especially managers. Accordingly, nowadays, the correct construction of a system of managerial training should ensure a purposeful connection of both formal and informal training of managers into a uniform system. In this system both kinds of training should be coordinated and effectively supplement each other.

This is confirmed by the success of two research projects in which the author was directly involved, *SPb InnoReg: Transformation of Regional Innovation Sysytem of St. Petersburg through Transnational Cooperation (2007–2010*), and *SPb Business Campus – a Benchlearning Network (2009–2011)*. Both projects are devoted to the

introduction of innovative experiences of Finland into the Russian economy, to learning practices of management, accumulated in Europe, in the Baltic Sea Region.

The fourth stage

The fourth period of activities of the author in the problem analyzed is connected to participation in the project "Managerial strategies, social capital and trust among Russian enterprises (Academy of Finland)" supervised by Professors Raimo Blom and Harri Melin of the University of Tampere. This period lasted from 2003 to 2006. The study of this period, revealing mechanisms of functioning of social capital, were largely based on the theory of modernization mentioned above, and also on works by R. Blom (Blom 2002, 76–101), J. Coleman (Coleman 1987, 95–120), R. Putnam (Putnam 1993), J. Nahapiet (Nahapiet et al. 1998, 242–266).

During the empirical research of this period it was possible to ascertain that the trust of managers in the basic actors of economic and social life of the country is an essential condition for the success of the development of management, and the development of vocational training of managers.

In a situation of high corruption, in a situation of a high level of mistrust typical of the Russian economy at the end of 90s, original "barriers of uncommunicativeness" developed between those basic actors, without whose partnership neither the formation, nor the functioning of innovational networks is possible. Thus, the results of the research carried out during the fifth stage showed that only the gradual restoration of trust, which started developing in the Russian economy after 2000, provided the basis for the development of management, for processes of mastering new advanced managerial practices. Restoration of trust was obviously accompanied by the activization of system of vocational training of managers. Only then did a system of informal training of managers start to develop step-by-step.

3. Conceptual base of the research

In order to address the main research problem, to find the directions for further investigation, three basic theoretical approaches should be considered: training and specifically managerial training, transformation theory and globalization theory.

Analysing the relationship between a developing economy and a developing system of professional education, the training of managers, the first approach concerns the importance of improving both national and regional systems of education. Those countries and regions are becoming successful in strengthening global competition which supports an advanced education system for their managers and specialists. In principle, success in the competition among education systems results in success in competition of economies.

The transformation of an economy towards market competition based increasingly on knowledge and learning (Lundvall & Borras 1998, 28) has turned out to be one of the most important issues in the successful transformation of an economy. The crucial factor of effectiveness of a regional system of managerial training is its flexibility,

the diversity of its forms, the capability to borrow and implement experience and knowledge worked out by other countries and regions.

Transformation theory focuses on the regularities and relevancy of transformation processes in national and regional economies. A methodologically interesting inconsistency in the transition from a centralized planned system to a self-regulated market has appeared, especially in Russia. It might be described as follows. The centralized planned system has strictly formed compatibility of two systems: the system of industry and the system of training personnel for an industry. Market assumes a self-regulation of each system mentioned. Compatibility of both systems should also be achieved because of self-regulation. However, the transition from "plan" to "market" cannot take place naturally, but only because of self-regulation. It is necessary to create a temporary managing body to manage the process of mutual adaptation of system of industry and system of training of personnel. In other words, the transition from the plan to the market should take place because of the plan. To reject former regulating bodies, it is necessary to create one more "administrative body".

Such an "administrative body" should exist and function until the mechanisms of self-regulation achieve maturity. The Commission for the Preparation of Managerial Staff of the Government of the Russian Federation could be regarded as an example of such a newly created administrative body in modern Russia. It partly managed to execute functions in the control of mutual adaptation of transforming industry and transforming the system of training of personnel mentioned above. At the same time, special scientific interest is called to those problems, which up to the present time have appeared to not have been solved by the Commission. Just those problems allow us to improve representations about the mechanisms of social and economic transformation "from plan to market". (Gaidar, 1998)

The transformation of system of the preparation of personnel for an industry and an economy as a whole becomes a consequence and an important stimulus for general socio-economic transformation. In order for transformation processes in social and economic processes of countries to be effective, it is important that they have a systemic character, are balanced and optimized in a definite period of time. It is natural that the transformation of professional and higher education leads to more and more universal forms. This makes the system of professional education, training, managerial training easy to transfer, export and import.

The most important aspect of the globalization theory issue is that the organizers of Russian reforms from the end of 1980s to the beginning of 1990s had a choice between two alternative variants. The first variant was aimed at a sharp opening of the economy, society and fast democratization. The second variant supposed gradual, step by step rising of economic openness, the gradual development of democratic institutions.

Both the analysis of innovation potential in industry and economy as a whole, and the possibility to create an adequate innovation system acted as an important condition for making the right decision (Kosonen, 2006). The scale of currant globalization turns out to be a crucial risk factor for the reforming countries. If the first variant is chosen, the economic innovation system should be in a focus of attention by the main socio-

economic actors. Investments of the resources of a country in the development of innovation system should be intensified (Schienstock, 1999).

Accordingly, training of managers, the leading specialists in a reforming country should become an object of globalization. In the processes of the globalization system of managerial training, the training of specialists should be actively included (Blom, Melin and Pyoria, 2005).

4. Significance of the Research

In principle, functional complementarity, the interdependence of the processes of the transformation of both industry and the system for training of managers seem obvious. However, in practice there are frequent dissonances between these processes, and reality reveals an absence of relevancy in the operation and development of industry, and in the system of training managerial personnel (Gorelov, Sarno, A., Sarno, I., 2000). Moreover, the absence of such coordination can lead to the failure of the reforms.

Natural, spontaneously operating market mechanisms of supply and demand have too much inertia to act as an adequate regulator for the mutual establishment of systems of both professional training of managers, and a system of provision of employment, usage of managers in industry and in the real sector of economy (Kaukonen et al. 1999).

One of the unfavorable aspects of development of relationships between the subsystems mentioned above can be exhibited as follows. Before firms determine their need for specialists and managers, they have no capability to create higher education establishments; HR centers have rational ideas, incentives: how many specialists, what structure of specialists is necessary, what training level is relevant. Accordingly, losses of time in becoming "mature", the formation of a justified demand of firms for specialists is predetermined. At the same time, a system of training qualified personnel cannot satisfy such a recognized, "ripened" demand in a short period of time, since a complete cycle of training of qualified personnel lasts at least five years (Abramov 2005, 139–140).

Before the adequate mutual set-up of industry and system of training of personnel for industry is reached, a period of transient "trial and error process", processes of seeking conformity is predetermined**.** But just these processes demonstrate most visually the features of innovation networks of a region, demonstrate the innovation potential of the region, and demonstrate in what directions it is reasonable to develop the innovation potential of this region.

The first sign of failure to understand of the necessity of a network approach, of acute deficit of orientation toward partnership was exhibited during the creation of the Strategic Plan for St. Petersburg. Too large a volume of "aggregate resources", representing an infrastructure of the economy, has appeared to be "no-one's", non-demanded (Kosonen and Leppänen 2005, 107–126). None of the actors assumed responsibility for its continuation and development.

The second sign of a lack of a network approach was found during the implementation of the Presidential Programme for the Training of Managers. While both creating ideas of this programme and for its implementation, the most conventional and obvious approach – simple "copying of foreign experience" has prevailed.

5. Objectives and Methods of the Study

Changes in the innovation potential of an industry, changes in the reasons for the increase of industry's innovation potential, are the major characteristic of the transformation processes in the economy of St. Petersburg, and in the Russian economy as a whole. The destiny of this economy, and its chances of being integrated into the global market, essentially depends on the innovation capabilities of industry.

Accordingly, the most important resource for such indispensable growth in innovation potential is a complex of relevant knowledge, a relevant system of training for company personnel, and especially for the managers of firms. For a structurally adequate description of the required learning processes, it is important to reflect their place both in the system of institutions, and in the system of culture (Lundvall 1995).

Methodologically, the empirical research is based on a study of firms presenting the most significant sectors of the economy in the St. Petersburg region. The study includes a complex of methods: analysis of scientific literature dedicated to problems of the development of innovation networks in a region; collecting of statistical data; three surveys; conducting of fifteen case studies on St. Petersburg firms; carrying out thematic interviews with representatives of public sector organizations influential in the development of innovation processes in the region.

Professors Raimo Blom and Harri Melin, University of Tampere, have led the most important projects for the preparation of the dissertation. Due to close teamwork collaboration with them, many interesting innovative ideas have been generated in an atmosphere of creative scientific research. This was the most fruitful stage of the work, which over last 5 years has made possible the writing and publishing more than 15 joint publications, and the presentations of joint papers at international conferences.

The main research questions of the study are:

- What is the dynamics of both formal and informal education of managers in the transforming Russian economy? How does the formal versus informal education support the operations of firms and their managers in the transforming economy? What are the problems of capitalization of both types of education?
- What kind of innovation practices are characteristic of firms in the real sector of the economy of the St. Petersburg region?
- What is the structure of factors enabling, supporting the development of the innovation potential of St. Petersburg companies? Among such factors, what is the significance of managers of firms participation in special international training programs?

- What are the advantages in the development of innovation practices for those firms in which managers actively participate in formal training e.g. special international training programmes for managerial staff? What kind of knowledge and experience from the international standards adopted turn out to be used in transforming the Russian economy in prevalence to others?
- What system of measures can be relevant for activating the innovation potential of firms in transforming the economy of St. Petersburg? In what directions is it expedient to improve the practice of supplying special formal and informal training to promote the development of innovation potential of firms of the region?

6. Hypothesis

1. In case of radical transformation, like a shift from planned economy to a market economy in the innovation networks of a transforming industry a special structure – a system of operative training of managerial personnel in St. Petersburg economy should be created.
2. Purposeful formation of a system for the training of managers demands correctly distributed and coordinated (negotiated) efforts of experts between two major subsystems: a subsystem of formal training and a subsystem of informal training, since these subsystems not only functionally supplement each other, but also in some aspects frequently appear to be unmatched, to be in contradiction to each other.
3. Support of economically developed Western countries with experience of market development is an important prerequisite for the creation of a relevant managerial paradigm (culture of management) in a country in transition from a planned to a market economy;
4. Systems of urgent training of managers supporting transformation of the economy (especially a shift from planned to market economy), which adopt western practices of management, yield the first positive results in 3–6 months after the graduation of the trainees.
5. The first, fastest obtained results manifest themselves not only in an improvement of final results: volumes of production, increased profits, etc., but also in the accumulation of the "preliminary" prerequisites of development, which can be identified in context;
6. Major hindrance to the adoption of "Western practices of management" is not only difficulty in attaining a theoretical understanding of western experience, but mainly resistance on the part of traditions of informal education created in Russia, obduration/persistence of traditions, habits of company personnel, to which trainees are doomed to come back after their training in western countries.
7. Temporary systems of urgent managerial training that import western managerial practices, like the Presidential Programme, turn out to be a channel of

communication among different cultures of management, hence revealing the specific difficulties of actors in transforming economies in their adaptation towards importing managerial practices.

8. One of the weakest points of actions of principal actors in transforming the economies of the region is the absence of a network approach towards conversions which are being carried out.
9. Apparently, additional time is required in order for significant actors controlling the social and economic life of the region to affect its internal and external life to acquire a network approach. Nowadays, they are too "atom-like", oriented towards full autonomy, even isolation.

The first chapter examines the concept of *management* and its main functions, the dependency of the efficiency of management upon the level of manager's education. It also discusses both differences and interconnections between the formal and informal training of managers and concludes with the assumption on the mutual complementarity of these types of training.

The second chapter is devoted to the general history of management. Seven major periods of the development of management, seven stages of theoretical understanding are allocated. It is revealed that an interrelation of formal and informal types of managerial training changes given different stages of the development of management.

The third chapter examines the historical development of the theory and practice of management in Russia. The dependency of management and its practices on the social and economic organization of the society as a whole is analyzed here. Special emphasis is placed on modern processes of internationalization of management, on ways of introduction of Western managerial practices by Russian firms.

The fourth chapter examines the present state of education in Russia, the current status and trends of formal training of Russian managers. Prospects for training are analyzed in the context of ongoing processes: strengthening of globalization, Russia's entry into the global information society.

The fifth chapter examines the current state and trends of informal education of Russian managers. A wide range of key managerial practices, used in Russian firms as instruments of informal learning managers, is analyzed here.

The sixth chapter describes prerequisites for further development of interrelated processes of informal and formal training of managers. These processes are studied within the context of innovation development of macro-and mega-regions.

The seventh chapter examines specific conditions for the intensification of informal training of managers. The production, economic lives of regions and firms' activities are analyzed as sources for training managers. This chapter discusses ways to improve informal training of managers.

The eighth chapter examines the preconditions for the further development of formal training of Russian managers, carried out in a framework of the overall transformation of education in Russia. The efficiency of the modern Russian system for the education of managers and the degree of the implementation of principles of learning economy implemented in Russian regions are considered here.

The conclusion summarizes the overall and specific findings of the dissertation, including the directions for further study of forms and methods of formal and informal training of managers; it focuses on the complementarity of formal and informal learning, and underlines the need for purposeful coordination of interrelation between both forms of training.

The main outcomes and publications are listed in Appendix 1.

1. The training of managers

1.1. "Management" as a concept

To analyse tendencies in the learning of managers, to offer ways of increasing the efficiency of such training, it is expedient, even in general, to outline the borders of the concepts "learning of managers" and "management". Strangely enough, this is not so simple to accomplish, although discussion of these concepts has been conducted for more than a hundred years. It is typical that authoritative authors of one of the classical textbooks of "Management" – M. Mescon, M. Albert, F. Khedoury have essentially avoided any uniform approach in the definition of the concepts "management" and "manager" and have constructed their ideas as they exploit in the foreword, following the "eclectic method" (Meskon, Albert, Khedoury 1992, 61–81).

Such an approach has allowed them to unify in one book, as they said, "most useful, important achievements of all basic scientific schools and directions" in the variant most close to reality (Meskon, Albert, Khedoury 1992, 21). From their point of view, this is due to the fact that they recognize the "analysis of a situation" as a starting point of the acceptance of all administrative decisions. The dominance of such an approach, at first sight, is quite clear – the manager really should have enough knowledge to use a professional arsenal of methods and procedures for resolving any possible situation in the organization for which she/he is responsible.

Thus, in essence, authors offer an exploratory, heuristic style of both thinking and managing actions as the most important success factor of the manager, as the main feature of management. Only the set of the basic functions of professional work of the manager can be brought to a standard set: planning, organization, motivation and control, but when and what decision into accept, is submitted for the consideration of manager, he should also himself set his priorities, proceeding from the representation of a situation, i.e. on the basis of experience, intuition and common sense. We share such an approach to the definition of the concepts "management" and "manager". The topicality of such an approach, in our opinion, even increases today in connection with transformation processes caused by the development of the information society, the development of innovation economy under the influence of globalization.

Let us also further underline those aspects of both concepts considered by the authors below, which are significant for the analysis and interpretation of the empirical material, and also for the formulation of recommendations in the later parts of the thesis. Like these authors, we believe that specialization in the field of management testifies the presence of certain common characteristics of the work of heads of different ranks and structures: from CEOs down to line managers. Common to them is that

management is carried out by means of special social entities – organizations, which in spite of differences in their purpose have similar features. Organization as a subject of management is a group of people, whose joint activity is meaningfully normalized and is directed towards the achievement of external purposes. In each organization there is an internal and an external environment. The internal environment is characterized by intense interaction of formal and informal structures. Formal structures are constructed by a partition of the general task into separate subtasks and delegating people to do them. Thus, in the organization there is a division of labour. For the coordination of the actions of members of the organization, vertical division of labour, or hierarchy is used and considered an important structural attribute of management.

As Peter Drucker, for example, assumes, each manager carries out his functions irrespective of whether he reflects it or not. He may do them well or poorly, but he always does fulfill them. His work is to induce, to direct, to organize the work of other people. His means of work is information. It allows him from available resources to create and re-create something as a single whole, which Peter Drucker calls "industrial unity" (Drucker 1954, 342, 346).

In addition, it is rather difficult to limit such a broad concept as "management" solely in frameworks of professional work. Yet, on the one hand, there are obvious attributes of the fact that manager is a professional, since the detached subject of work, its special content and character of work, motivation and qualification, vocational training and professional language are characteristics for him. On the other hand, there are numerous illustrative examples of biographies of outstanding managers, who became outstanding without professional, but also without sufficient general educational preparation. Such examples give convincing arguments supporting the concept: management is mainly an art. "Some managers – practitioners, including lots of people who achieved very big successes in this area, believe that scientific theories of management represent some kind of ivory towers in academic, instead of representing real daily world of life of organization" (Gulick 1965, 7–13). Such position correlates with words by Peter Drucker that the criterion of quality of management will always be practical success in business activity. In other words, management is more likely a practice than a science or a trade, though it comprises elements of both (Drucker 1954, 9–10).

In this connection it is also characteristic that the authors of the encyclopedic directory of the American Association of Management *(AMA Management Handbook)* show a drift away from former mono-paradigmatic concepts of management. We share the notion uniting the majority of authors of this directory that the aspiration towards the revision of old stereotypes and readiness for the introduction of new ideas and approaches gives a guarantee of the development of both the theory and practice of management. James A. Belasco and Ralph C. Stayer, for example, write here "We have realized that the biggest threat was old paradigms of management, which we adhered, and we have been compelled to radically reconsider our roles as heads, to learn to think in a new way" (AMA *Management Handbook* 1994, 14).

The important component of representations about the theory and practice of management was the detection and search for an optimum combination of features

of formal and informal organizations. In fact, any set of cooperating people is an organizational system. From the position of the systems approach it represents a complex entity consisting of number of subsystems: formal and informal organizations and corresponding structures, statuses and roles, internal and external conditions.

A fairly profound revision of methodological positions of the analysis of theory and practice of management is carried out on the basis of the postnonclassical scientific paradigm. This paradigm places special stress on the fact that person not only supplements a concrete organization, but also creates, designs it. In the most obvious way it occurs when this observer – researcher is at the same time also a manager. Thus, for example, Gorge S. Odiorne – the founder of the "existential" theory of management came quite close to the comprehension of the problem of management from postnonclassical positions. He assumes that the behaviourist and quantitative models of management are simply impossible, that all modern theoretical schools are too simple to consider the extremely complex and diverse activity of the real or "existential" manager as defined by the researcher. In fact, the manager does not so much observe rules and principles established by 'scientific management', as many breaks them and, probably, only due to this achieves success or at least survives. The basic idea that the concepts of management cannot take the positivistic inherently into account, is that the central figure in management is not modelled, subjective and consequently human activity is not contained in mechanistic laws. However, on the other hand, the world of management is also the creation of these frameworks, a way of overcoming people's active subjectivity.

The concept of "existential management" recognizes the instability of the validity of active subjects and the uncertainty of the position of these subjects. To some extent the mot recent achievements of physics of nonequilibrium conditions and of the theories of dynamic systems, which have received general name of "synergetrics", help to make a closer approach to this problem of management (Samoorganizatsija i nauka 1994). In particular, the question is about revealing significant universalities among nonlinear phenomena. Thus, under certain conditions periodic phenomena take on a chaotic mode, but later out of the chaos some new order is likely to appear due to self-organizing, which can become a subject of foresight. An interesting contribution to the development of these representations was made by the Finnish sociologist Raimo Blom, who analysed the functioning of management at modern universities. He found, for example, that numerical growth and strengthening of the positions of professional managers at universities frequently deforms the natural integration of university life, spirit of creativity, and the free 'lavish' exchange of new ideas (Blom 2008, 190–192).

Management can also be considered as a stream of actions and interactions with a controlled process. In this complex texture it is possible to allocate phase transitions, a cascade of bifurcations as a spontaneous consequence of spontaneous decisions and such a central phenomenon of synergy, as SDPC (sensitive dependence on primary conditions) (Berzhe, Pomo, and Vidal', 2000, 301–302). Accordingly, it is possible to explain the conditions of the consciousness of the existential manager by his being in that limiting phase area, named "strange attractor" in the physics of nonequilibrium systems. Deviations from a norm, fluctuations, are formed here not because of

environmental influences. These deviations are the result of two recourses of influence. The first one is direct actions of the manager. The second one is the responsive actions of the object of the manager's actions in return. Problems arise because of the fact that it is almost impossible to predict the results of the collision of direct and "return" actions. The *principle of complementarity* by N*iels Bohr,* Danish physicist, could serve as an analogy. In our opinion, models of this concept of management help to more adequately analyse the phenomenon of trust – mistrust of managers revealed in the dissertation research among subjects of the external and internal environment of the firm. On the one hand, the strong interrelation of the growth of trust of managers towards the subjects of an environment, and on the other hand, the expansion of advanced managerial practices carried out by a firm were found.

Today it is already entirely clear that management as a theory is not exhausted by concepts which have been and are positioning themselves as a special independent science called management. As a minimum, it represents a dynamic unity of already developed, partly outdated, scientific views on the one hand, and constantly current generalization of quickly developing practice of management on the other. This circumstance finalizes the principles and structure of the concrete practices of training for management.

1.2. Formal training of managers

The duality of "theory" of management discussed above has its analogue in the extremely prominent aspect of the activity of managers-in-training. In fact, the training of managers is carried out not only in special establishments – higher education institutions (HEI), specialized business schools, training courses, etc., but also at the workplace, in a process of self-education, in a huge variety of social contacts.

Training in special educational institutions is the most studied form of preparation of managers. Here they regard daytime, evening and correspondence forms of training in a specialty in the field of the management received in various higher educational institutions: universities, educational institutes, business schools and business administration, the higher schools and rates of management, etc. Higher educational institutions in various natural sciences, economics, and humanities nowadays have faculties of management. As a rule, it is kinds of management, which directly relate to those specific kinds of industrial activity for which HEIs prepare specialists. Here are MBA Programmes, entailing not less than 1,000 teaching hours, special programmes, such as The Programme on Training Managers and Executives for the Enterprises of National Economy of the Russian Federation (Presidential Programme), etc.

A number of higher educational institutions, and also special educational centres include in the program of preparation not only the specialized courses in management, for example, personnel management, sales management, but also general management, amounting to at least 40 contact hours. All of them increasingly use distance methods of training of managers. Educational centres consulting firms are usually specialized in conducting such "small" forms of training of managers as centres of development,

work-shops, seminars, video trainings, practical training, round tables, and business discussions. However, classical higher educational institutions also create the "internal" divisions for carrying out such forms of training of managers. Each of the currently functioning educational institutions to some extent masters such means as multimedia complexes, Internet, interactive conferences etc. to enhance learning efficiency.

For example, at the beginning of the current decade in the USA more than 600 business schools were functioning; more than 1,300 universities and other HEIs incorporated separate schools or faculties of management in their structures. In total about 1,500 educational institutions were occupied with preparation of administrative staff (Kravchenko 2000, 123–124). In the system of training of managers, and also top managers, issues of preparation, selection, evaluation, and placement of personnel were considered. In general, it consisted of the following forms:

- Training of students at faculties of management at universities and at business schools;
- Improvement of professional skills of managers with experience of practical work on courses, seminars and conferences organized by business schools, professional societies and consultant firms;
- Improvement of professional skills of the employees and managers, including industrial firms, organized within the framework of psychological departments and centres.

Improvement of professional skills of managers on short-term courses at business schools, in professional associations and consultant firms as a form of retraining of personnel in the USA has witnessed the greatest development in 60 cities. Now the number of such courses is much more than a hundred, and the number of managers from firms and corporations annually involved in both retraining on such courses and attending seminars and conferences, is estimated at hundreds of thousands.

Persons involved in training in business schools are studying on courses in social psychology, are acquiring skills through the newest methods and practices of management and decision-making:

- Quantitative methods of analysis
- Automated control systems
- Algorithms of systems modeling
- Skills of the system approach to making decisions on problems in management
- Social-psychological methods in the analysis of human relations and personnel management)
- Methods of training, simulating real conditions: analysis of concrete situations and management games.

In addition to universities and business schools, professional associations and societies are also engaged in the preparation of managers. According to the American experts, more than 20 thousand consultant firms organized seminars on issues in management, which developed methods of personnel appraisal, rendered advisory help to industrial firms and other organizations, made personnel evaluations at firms' request. The American Management Association consisted of more than 60,000 members,

representing 20,000 firms, annually carries out about 3,000 seminars attended by more than 200,000 managers of a various rank.

In the USA a wide network of psychological and sociological services is created in firms. At the beginning of the 1930ies one third of all large firms already had such services in the form of so-called departments of industrial relations. At the present time intra-firm courses on the improvement of the qualifications of the staff function within the framework of psychological departments and centres at the overwhelming majority of middle sized and large industrial companies.

The training of managers inside a firm is closely connected with the evaluation of their activity and the selection of candidates for higher administrative posts, and also with forecasts on demand for the staff and plans for the replacement and promotion of managers. Since the employee's evaluation regarding his future prospects is a rather complex problem, many companies solve this problem with the help of special centres of evaluation, mainly using psychologists. At the present time, for example, one company "American Telephone and Telegraph" (ATT) has created more than 50 such centres in which about 20,000 persons are tested annually. And as a whole similar evaluation centres are widespread in the majority of large and middle-sized companies of the USA, Canada, Western Europe and Japan.

1.3. Informal training of managers

At the same time, training at the workplace in many aspects of the activity of managers is neither less important nor fruitful than training in special educational institutions. Managers in any case are learning during everyday experience, with the help of formal training or without it. They are learning to survive. They study all the ins and outs; they are learning what is reasonable and what should be done, if they wish prosperity. In a word, professional development of managers occurs appreciably in informal conditions not depending upon decisions made by administration about the "planned" training. Thus, for example, in the UK, as in other countries of the world, more and more attention is paid to the central role of "on the job training" during the professional development of the administrative staff, pulling together the training of managers and their everyday practice of administrative activities. Here the aim is to create opportunities for all-round use of the training potential of a working environment. This is possible only by promoting managers´ continuous training and professional development, perfecting their skills. Given this basis there is an opportunity to favorably influence the change of their administrative role in the company.

Today the ten basic most popular methods of training on a workplace are described as (Afonin, Gibson 2003):

1. Mentoring
2. Coaching
3. Networking
4. Workshadowing

5. Learning logs/diaries
6. Deputising
7. Performance review and appraisal
8. Secondment
9. Action Learning
10. Expanding customer contact

Let us briefly characterize each of these. "Mentoring" means that the learning manager is helped by a more skilled colleague. Such help may be informal, but may occur and in a framework of an officially authorized system of professional development of managers at the company. Such practices may include the support pattern of young managers – newcomers, for example. Mentoring almost never proceeds from the direct superior. It may even proceed from an employee whose work essentially differs from the work of the "learning" manager. The instructor can help, for example, in issues such as "opening doors" in the company, act as an original "reflector", and also make valuable recommendations for professional growth.

"Coaching", which etymologically means training, can be considered as an original modification of mentoring. In coaching, a more skilled manager/coach on a regular basis gives advice and feedback about the efficiency of the work of a less skilled head, being based on "effective and less effective" behavioural indicators. Coaching is described as both "style of management" and a concrete set of practical skills (Burdett 1994, 133–145). Coaching can be quite naturally used by the direct superior. It may consist, for example, of assigning of new administrative tasks to the manager for the perfection of a battery of his skills. Here the process of training is realized by a direct order and feedback. It is important that the trainee manager should experiment with various styles of behaviour in the company. The manager should cope step by step with growing problems and to acquire new styles, managerial techniques.

An interesting form of training on a workplace is "networking". Its task is to create as many large-scale opportunities of interaction with other people as possible for the manager in training, from which it is possible to learn effective behaviour, an effective system of relations, etc. Such networks formed aiming at professional development, can be both internal and external to the company. The process of training thus is carried out due to interaction with other divisions of firm, employees, whose status may be higher or lower than the status of the trainee. Perception and analysis of how other managers supervise work are prominent aspects of the experience received.

Regarding "work-shadowing", the trainee manager within the working day observes a more skilled colleague, studies his ways of working and methods with the help of which he fulfils his tasks. Such training assumes discussion with this more skilled colleague on the basic methods and approaches used by this colleague in work. Discussion is expedient both before the observation and after it.

The use of "learning logs/diaries" means that the trainee manager keeps a diary of his everyday working activity and with the help of the trainer – adviser determines what he studies, and how it can be applied to his work. The manager's own reflections and analysis help him in this case. He should concentrate on the definition of a

probably wider spectrum of opportunities of training. It helps him to master and use various styles of management and styles of training.

"Deputizing" means temporarily assuming the duties of other managers, as a rule, the duties of a superior, for example, during his absence.

It allows this manager in training to acquire experience of tasks and duties previously unfamiliar. The important skill of coping entails real difficulties, characteristic for heads of higher position. It expands the opportunities to experiment new styles of behaviour of the superior.

"Performance review and appraisal" as a method of training in a workplace means that trainee managers are evaluated on the coordinated purposes of work and criteria of efficiency of activity. The analysis should be carried out from the outside: by the immediate superior or, in some cases, by a group of people consisting of subordinates and colleagues. The analysis should be connected to the methods to increase the efficiency of activity, such as coaching. The value of this method is in the fact that the trainee manager receives intensive feedback, allowing him to more adequately estimate the efficiency of the actions.

In "Secondment", the trainee manager is temporarily assigned to another organization or to another division of the same company. This may, for example, the head office of the company or local branch, where he should pass new tests, to solve new problems. Due to this process new competences are being acquired and developed.

In a sense, "Action Learning" is the most ancient and universal method of training of managers. Managers are made to face new real-life problems at work, which, as a rule, is not included in the range of their daily activities. Managers work together as a learning group to resolve individual or common problems actually occurring in the company. A skilled adviser will help managers to solve these problems. However, the most important is the comprehension by the manager of his own training during the resolution of this problem. Managers study to work together, constantly supporting each other and leaning on resources of collective work.

"Expanding customer contact" is a method of training of managers in which efficiency essentially grows in a situation of modern globalization. Given this method, the active involvement of the trainee manager into interaction with external or internal clients is increased. It is important that the manager has realized the value of contact networks for the survival and prosperity of the company.

A work by Cunningham (Cunningham 2004) describes the programme of preparation of the administrative staff of the top echelons in one of the largest municipal governmental organizations of the UK. Each manager develops his own plan for individual development, using various combinations of methods of training at the workplace, as mentioned earlier, with the purpose of increasing management efficiency. The fact that training in a class is completely absent, is not unique. Some from the methods described above, for example, performance review and appraisal, are directly integrated into the work of managers only when the trainee manager is actively involved in the process of training and searching for optimal and relevant decisions. In an educational institution, outside real company conditions it is almost impossible focus on the decision of modelled problems. Some methods, such as action learning,

assume an opportunity for more effective interaction and communications of managers among themselves to transcend organizational barriers and to break the mentality of "isolatedness". Unfortunately, in large companies such a mentality prevails for the present that, alas, does not promote the joint solving of problems.

Today it is obvious that the development of skills in management is considered a duty of the company as a whole. Directors and top managers are now directly involved in the professional development of subordinate managers (Whiddett and Hollyforde 1999). The concept "learning organization" (Senge 1990) in practice should be constructed on the ability of all managers, including foremen, to be open to training, to be able to diagnose the weak sides and to search for an opportunity to study. "Learning organization" is impossible without "learning individuals". Certainly, for the realization of many techniques of training at the workplace it is required that business should have a high level of trust and honesty in order for managers in training to have the skills necessary for giving and receiving feedback, a desire to experiment, take risks, apply new approaches to management and in order for the organization to be characterized by a style of management focused on people, instead of tasks.

As studies by A.J. Afonin and M. Gibson (Afonin, Gibson 2003) have shown, Russian foremen frequently have no necessary skills to be effective instructors (trainers), do not regard it as reasonable to send their employees to another place of work or are not ready to believe in the value and economic advantages which can be gained from a correctly developed "action learning" programme. However, the importance of training f managers at the workplace is becoming increasingly important when conditions of modern globalization makes this kind of training an object of special efforts, special initiation and stimulation.

Regional and federal authorities, international communities become the subjects of such efforts. As an example of the international support systems of training of the administrative staff at a workplace we mention here projects Delfy-1 and Delfy-2 which were financed by the European Union. To some extent here it is possible to also mention an extensive project carried out with international support – The Program on Training Managers and Executives for the Enterprises of National Economy of the Russian Federation (Presidential Programme). The purpose of the projects is to pull together the services of suppliers of managers' training and their clients for an increase in the learning efficiency and professional development of managers. Due to such forms of international cooperation there will be a gradual merging of styles of management on a global scale, though the influence of national distinctions in ways of developing management will continue to occur for some time.

In addition, the correlation of parts of the socio-cultural flow of socializing information as a whole essentially influences representations of how forms of the training of managers are changing, how the system of training can be improved. A significant part of information, behavioral and practical skills, essential for the efficiency of manager, circulates in a society as the common cultural baggage of any person. Frequently, researchers do not at all ask, what the instrumental sense of this knowledge and skills is, by what mechanisms they are reproduced. To some extent, using an analogy convenient for an explanation from the once popular psychoanalysis,

this part of knowledge, skills can be named “non-reflective” in the general set of knowledge and skills which make the manager effective. If needed, some of these “non-reflective” skills and knowledge explicated by researchers becomes a subject of teaching for practising managers and students specializing in management. But the return process is also essential when any concrete knowledge created by theorists of management gradually passes into the common cultural baggage of people, and accordingly loses the status of “reflective”. As a result, this knowledge is removed from programmes of training managers so as not to teach experts to do what they have long known and not to repeat known truths.

In this context, R.L. Ackoff insists on the fact that, even the overall goal of a system of training managers and the overall goal of the education system for the preparation of managers, anticipating the higher education level, consists of the preservation and possible development of the creative activity of the trainees (Ackoff’s Best 2002, 165–186). Such an approach demands the removal of a significant part of “readymade recipes” from programmes for the preparation of managers. In addition, it is necessary to promote the “relaxedness” of trainees, to promote the disclosing of creative activities, the creative initiatives of future specialists. Thus, it is a matter of focusing on the benefits of “non-reflective”, making the personal baggage of everyone trained; about focusing on what already exists in each person. As a result, if training managers are constructed correctly, as Ackoff notes, it will represent a process which will continue lifelong in which distinctions between formal and informal training and between work, game modelling and study become insignificant (Ackoff’s Best 2002, 214).

2.
Main stages of development of the theory and practice of management, training of management

2.1. Periodization of development of management

The way the managers behave during the concrete historical time, in concrete conditions, their merits and demerits, depend upon many factors, the main two being the practice of their activity and their training. To identify specific features of modern managers and to understand, how they might look like tomorrow, it is important to study, on the one hand, the strategy of development and the conditions of functioning of the organizations which have employed managers, and on the other hand, the functioning of systems of training managers and the of development strategies of these systems. Each of these systems had and to some extent still has its own, rather independent logic of development, its own crises, its own ways of transformation. However, such independence is more than relative. In fact, at each stage of evolution, at each stage of reforming organizations employing managers, on the one hand, and educational establishments, on the other hand, essentially influenced each other, they were functionally connected, and in modern conditions all of them are more and more strengthening this functional coherence. The dynamics of the contents of these connections is also interesting. In the first stages universities are in the position of an original authoritative teacher of business, they "disposed themselves" to dictate "content and principles" of activities to business organizations. Only much later, closer to the present days they did take the position of equal partner to business, who on a regular basis should also take up the role of a student.

According to the representations of various authors about the importance of those or other aspects of the objective social and economic situation, these authors formulated the classification of schools of management differently. Thus, for example, in 1961 G. Kunts published in the Journal of the American Academy of Management an article "Jungles of the theory of management" in which he proposed a classification of "schools of management". He identified six such schools: 1) a school considering management as a process; 2) an empirical school; 3) a school of human behavior; 4) a school of social systems; 5) a school of the theory of decision-making; 6) a mathematical school (Sovremennoe upravlenie 1997, 1–10). Later E.Rogers and R.Agarvala-Rogers define three schools: 1) a school of scientific management; 2) a school of "human relations"; 3) a school of social systems (Rogers 1976, 43–72). Then

in the subsequently canonic textbook "Basics of Management" the authors define five schools: 1) a school of scientific management; 2) a classical, or administrative, school of management; 3) a school of human relations; 4) a school of sciences about behaviour; 5) a school of management science. A number of authors have proposed a more likely logic of classification, than that dependent on varying external conditions, identifying only three types of schools: 1) process; 2) system and 3) situational (Mescon, Albert, Khedoury 1988, 61– 81).

In Russian social science D.M. Gvishiani was one of the first to propose a classification including five stages of development of the western theory of management: 1) "classical" theory; 2) the doctrine of "human relations"; 3) the empirical school; 4) the school of social systems; 5) the new school of scientific management (Gvishiani 1972, 87–270). In one of the latest Russian works on the theory of management of A.V. Tikhonov defines three basic stages of evolution of the managerial scientific idea: I. Pre-cybernetic. II. Cybernetic. III. Post-cybernetic (or modern) (Tikhonov 2000, 39).

Perhaps the influence of social and economic circumstances on the genesis of administrative ideas was most comprehensively considered by F. Sutton and colleagues (Sutton et al 1956). Thus, in the dissertation for our interpretation of the data collected, we rely on the periodization offered by these authors. At the same time, we should slightly modify and expand the classification scale proposed by them. Our analysis includes aspects of the evolution of administrative representations, e.g. the natures of the interaction of business and systems of training of managers by F. Sutton, which oversteps the limits of the classification mentioned. In addition, we are compelled to somewhat expand the range of time within the framework of which the theory and practice of management developed.

2.2. The fragmentary – syncretic period

As is known, F. Sutton and colleagues identify four basic historical periods: rational – economic, social, psychological and entrepreneurial, where the first period starts from the beginning of the 1890s. The first school of management was opened in the USA in 1881. This period is associated with a rather active public and scientific resonance of interesting administrative ideas as stated in articles by Babbage (the author of "On the Economy of Machinery and Manufactures" (1832).

At the same time, certainly, no gifted managers at all, capable of operating on a large scale, appeared in the 19th century. The history of mankind knows a lot of managers with initiative in the last centuries and even in the millennium of development of a civilization, prosperity and the recession of national economies, development and transformation of the concrete economic organizations, formations and stagnations of various establishments. What is it possible to tell about recruiting managers during these historical epochs, about the systems of training of these managers? Certainly, most of their administrative competence was inherited from experience of life of that social strata from which they originated. It is an essential

share of that social capital, which, actually, constitutes this social stratum, makes it inaccessible to representatives of other social strata. But an increasing part of these competences is disseminated already through a system of training, where originally a dominant role was played by the universities.

Originally the universities shared their authority, the right to participate in the normalization, the regulation of the bases of public and economic life with the structures of government. This compelled the universities, contrary to their naturally limited opportunities, to speak on behalf of "the only truth", to simulate the presence of the universal breadth of competence, which they, naturally, simply not could have in those days, and do not have today. In a sense, they did not have any more constructive way out, since the etymological sense of the concept "university" means "entirety" or a set of all sciences, all branches of human knowledge, in contrast to a variety of special knowledge.

The medieval universities, the universities during the Reformation were basically state institutions, and teachers and students were state employees. The paradigm of knowledge in many respects inevitably copied a recently absolutely almost universally dominant paradigm – a religion, where it was needless to empirically check statements proceeding from the top levels of hierarchy. During this period of development of universities deductive knowledge, deductive theories were considered a priority, whereas empirical knowledge, information received in the inductive way, was of secondary importance. The hierarchy of scientists and teachers was in many respects reminiscent of the hierarchy of the clergy of a church. Further, partly being privately based on such representations, partly overcoming them, the founder of the Berlin University Wilhelm, Baron von Humboldt proclaimed the mission of universities as the powerful instrument for the basis of the political and cultural hegemony of the Prussian state. A significant contribution to the development of universities of such formation in different times was made by Spinoza, John H. Newman and others (Abramov 2005).

In such a situation experience and knowledge accumulated in the economic cells of that time, in shops, in workshops, in manufactories, did not look like a significant value for such universities. And these economic cells had no right to serious dialogue with universities. This dialogue was practically lacking. However, in daily occurrence it did not result in any serious contradictions, in any conflicts of institutional interests, since during this period the strategies of functioning and development of manufactories, shops, small-scale enterprises could cautiously be called market strategies. Accordingly, the competitive market struggle of such entities generally still appears indistinctly only in the long-term future as a forthcoming prospect.

Such a period in the development of management and the development of a system for training managers can be named fragmentary – syncretic, nonspecific. During this period, students of universities – "future managers" received a lot of knowledge in the field of mathematics, law, economics, psychology, natural sciences, etc. important for the performance of their future functions. However, it is obvious that the main "learning of management" is carried out, if we use modern terminology, by means of informal training, by means of training on a workplace.

2.3. The rational – economic period

The situation varies appreciably during the last decades of the 19th century. For this period a specific stage of development of management is characteristic, when it was first institutionalized and started to develop from its own basis, when a specific system of training, purposely directed at the preparation of managers as a special category of professionals was generated. The fact is that at this time of the agrarian – mechanical economy, the USA[1] started to be really transformed into an industrial economy, when active businessmen succeeded in absorbing their competitors, to be united in trusts for the division of the marketing outlets and for the establishment of monopoly prices. During the same period the trade-union movement becomes noticeable. However, after the suppression of the trade-union demonstration in Chicago in 1886 large corporations and the government started to become active in counteraction towards the working-class movement.

In such conditions firms did not require any complex strategies for action on development. The focus in these strategies was on extensive, quantitative growth, the absorption of possibly more extensive manpower. In fact, increase of volumes of manufacture automatically meant increase of volumes of profit. A specific cultural feature of the period described here was the nature of labour. The labour employed in the industry consisted mainly of immigrants. For example, during 1907–1908 they made from 35 up to 85% of workers, though the population of foreign origin in the USA never exceeded 15% of its total number (Littler 1982). As a result, the extensive social distance between employers and hired workers, became increasingly fraught with conflict. In D. Noble's opinion, at that time businessmen treated the American workers as goods (Noble 1977). In the given circumstances the ideas of Taylor were quite adequate for the management of plants and factories (Montgomery 1979).

It is no surprise that the first university courses in management at this time still quite clearly had the mark of an authoritative approach which completely dominated at medieval universities. The universities of that time paid insufficient attention to business. The attention, which nevertheless was paid to business, was characterized by an authoritative approach to what must be done and how. It is typical that even F. Taylor's theory (Taylor 1895, 1947, 1911; Wrege 1995, 4–7), apparently, carrying the same seal of authoritative didacticness was originally rejected by universities as undermining their authority. In the eyes of the universities of that time it looked like being almost the "reformatory – liberal" doctrine.

As Peter Drucker has further shown, Taylor's principles of scientific management by the fact of their existence pretended to limit the spontaneously developed specific freedom of mutual actions and counteractions, of both owners of the enterprises and their managers, and also specific freedom of actions of trade unions. In fact, both those and others acted as proprietors of special kinds of capital. The first owned means of production, the second acted as owners of their own individual labor and as members of a trade union they applied for possession of collective labour as a special kind of

1 The logic of the development of both management and systems of training of managers is appropriate for considering the USA as an example of the most advanced economy in the modern world

capital. And in situations of both constructive cooperation and conflict, when they were doomed to resort to mutual manipulations, both sides preferred to have their "hands untied". Neither they, nor others were interested in the occurrence of such an intermediary, as F. Taylor, for example, who undertook to rationalize relations between them, thus inevitably pretended to limit the possibilities of their mutual manoeuvres. Naturally, such attempts have encountered resistance from all sides: those and others. Moreover, at that time many employers perceived F. Taylor's ideas as liberal and political-reformatory, undermining the foundations of society (Nelson 1975).

The essence of the reaction to F. Taylor's theory has also been revealed in the dual attitude of universities. On the one hand, they have reacted by rigid aversion, which found a reflection in the Hoxie Report, published in 1915. Robert Franklin Hoxie, adjunct professor of political economy of the University of Chicago, investigated 35 shops in which scientific management was used. In his report he sharply criticized its purposes and claims to provide unity of interests of employers and hired workers (Hoxie 1915). On the other hand, the universities rather quickly included F. Taylor's theory in teaching courses. One of the first experts, to do so, Morris L. Cooke (Cooke, 1910), was one of authors of pioneer works in the field of management of higher education. His report "Academic and Industrial Efficiency" was published in 1910. Due to him, researchers of university management became a source of the development of the management of education, which much later become on independent area in professional work (*Zelvys*, 2000).

Thus, during the second period of the development of management the contact between universities and business has become visible. It is not yet a dialog, but a monologue of universities, to which leaders of business to some extent are listening to. The influence of the universities has in many respects a political character. It does not cause any doubt that the overwhelming part of habits and skills of managers during this period was acquired through informal training, through practice at work where they accumulated experience by trial and error. However, the level of managerial practices of that time, lack of necessity in complex market manoeuvres by firms made such preparation of managers adequate.

2.4. The social period

In the 1920s and 1930s in the USA an essentially new social and economic situation emerged. It was characterized by the increase in the sizes of industrial and trading companies, thus the load on each manager inevitably grew, i.e. the norms of manageability grew, and, accordingly, management efficiency diminished. But the main thing was that competition between firms and corporations obviously became stiffer. In a sense, the extensive way of their development was coming to an end. A situation of full employment, an extremely favorable thing for hired workers, developed by this period. Full employment resulted in the disappearance of long lines of well qualified employees ready to work under any conditions. In any case, when hiring both skilled and unskilled workers, working conditions should be considered.

This had a negative influence on management, as it was quite often expressed in constant sabotage on industrial lines, which alongside with the mentioned problems had a deleterious influence on labour productivity. Intensive or internal factors of their survival and development were becoming more and more actual.

Therefore by the 1940s and 1950s the concept of the social detachment of "blue collar workers" regarding managers, firms, society as a whole achieved wide circulation in sociology. The problem of control was put forward due to economic expansion and full employment. Mass leaves of absence from work and employee turnover at companies in the USA generated problems of low labour productivity.

In such conditions the basic strategy of firms and corporations consisted of increasing of the market competitiveness due to reorientation internal factors connected with better of human resource management. Accordingly, there was a serious complication in their internal structure, their bureaucratization increased. It was necessary to significantly increase the specialization of workers, to provide vocational training. Bureaucratization of industrial companies at that time meant their significant complication. It resulted in the occurrence of serious problems connected to the administrative control.

Accordingly, the scale of the trade union organizations sharply increased; the activity of the trade union movement increased. In 1933–1937 the number of members of the American trade unions grew from 3.0 up to 7.0 million persons. The National Labor Law (1935) established the right of workers to establish their own organizations. Thus there was a demand among specialized administrative personnel for negotiating labor contracts. Accordingly, from 1933 the basic part of the administrative and strategic responsibility for the achievement of labour arrangements was assigned to experts responsible for the personnel. This meant a new administrative group, interest in which was later characteristically given to the theory of human relations. R. Bendix assumed that the very strengthening of trade unions compelled managers to refuse representations about hired workers, as if they were mechanical robots (Bendix 1963). Management was compelled to deal with workers as with people already perceived as having natural lawful desires and independent opinions. In the period 1940–1950 the authors of the ideas of the theory of human relations proved that managers should improve the organizational atmosphere, form favorable public relations, taking into account that they were essentially deformed by industrialization. Peter Drucker in many respects shared the principles of the mentioned theory (Drucker, Peter 1954). At that time he idealized "the self-governing factory community" and hoped that the theory of human relations would expand the rights of hired workers in the development and decision-making in companies.

The universities gradually noticeably changed their position concerning business. Step by step there was a decrease in declaring of general and universal principles which companies were doomed to follow. An orientation towards the development of social technologies which could appear useful to business was on the increase. However, in the methodological approaches used by universities, their authoritative orientation concerning business was still noticeable. The universities still claimed a role as missionaries concerning business, a role of heralds of social responsibility, which

"should" open eyes to firms and corporations regarding the social responsibility they carried. As the most positive aspect of changes it is possible to name the activization of research on business organizations, in industrial firms and corporations, since the Hawthorne experiments have offered stimulus to further sociological experiments in industry, in particular by such scientists as Henri DeMan (Jean-Marie Tremblay 2006).

The development of the research sector in the university system in the USA marked the beginning of a new epoch in higher education. A number of private American universities, in the establishment of which major industrialists and businessmen took part, were purposefully created already as universities of a research type. The phenomena of growth of value of the university researches carried out under the orders of private corporations and the government has been called "academic capitalism" (Abramov 2005, 29). Teaching various specialized courses on management has also increased. The first university course devoted to the theory of human relations was offered in 1936, and in 1946 it became an optional course in the Harvard Business School. Robert Saltonstall wrote that "teachers of universities were the first who picked up U. Williams and E. Mayo's (Mayo 1949) ideas as representing value for further analysis and experiments" (Saltonstall 1959, ix.).

In addition, a specific feature of the third period of development of management was the dissemination of theoretical knowledge and practical experience in the field of management to other countries. Thus, J. Dunning (Dunning 1970) pointed out that the first consumers of the American experience in the field of management were firms and corporations of the UK. These firms which borrowed American methods of management used the most diverse means: invitation of consultants, purchase of American scientific literature, and attracting English managers with work experience in American companies. In addition, transfer of American technology to their suppliers resulted in the fact that some British managers created their own companies and reproduced experience acquired by them in the USA. Besides, in 1949–1953 according to the Marshall Plan, 66 British groups including managers, technical experts and workers were sent purposely to study American experience in increase of productivity and to analyze the possibilities to acquire new techniques. On the basis of studying this experience business schools of the American type started to be established.

Constantly growing post-war abundance in Europe has caused a decrease in trade union activity, as it was noted by Hirszowicz (Hirszowicz 1981). Moreover, leaders of large businesses, social democratic governments of some countries appeared not to be ready for the growing passivity of hired workers, for the decrease of their activity in managing the production. As a whole, concepts of the social period created ground for liberalization, democratization of technologies in managing organizations. According to Holloway (Holloway 1983), it seemed that consensus between a society and business organizations, a consensus between employers and hired workers, is quite an achievable goal.

Thus, it is possible to state that at a given stage of development of management, universities more and more pay attention to business, firms and corporations. They start to carry out regular research, proceeding from representations about the partial consent and partial conflict of specific interests between firms and corporations, on the

one hand, and societies, social and economic subjects on the other hand. However, the majority of this research still has not been ordered by practitioners of economic life, by companies. Universities more likely create their own concepts about the interests of firms and corporations; they theoretically postulate them rather than directly asking them: what are your interests about?

At this time a number of training courses on management taught in various higher educational institutions in USA, the UK, some other European countries is quickly growing. At the same time, informal training of management, transfer of practical experience dominate over the channel of real training, but there are no attempts to regularly order and to purposefully develop forms and methods of such training inside firms. Only international exchange is an exception. Thus, transfer of practical experience takes the form of purposeful international social and economic help in cases of such partners traditionally favorable to each other, as the USA and the UK.

2.5. The psychological period

The fourth period of development of management goes from the end of 1940 to the beginning of the 1980s. This is time, on the one hand, of achievements of the zenith of economic prosperity in the USA, on the other hand, of the beginnings of a serious crisis in its social and economic system. Thus, A. Zimbalist assumed that at the end of 1960s the post-war period of prosperity of the American economy ended (Zimbalist 1975, 50–59). On the one hand, the increasing share of corporate profits went onto foreign investments; thus, for example, in 1974 they made 32% profit. On the other hand, since 1965 the overall profit of American corporations has been declining. From the beginning of 1970 the USA has faced economic crises, the most severe since times of the Great Depression of the 1930, with a period of political destabilization. The given tendency was caused by action of a number of factors:

- Increased competition between the USA and other developed countries, in particular with Japan
- Increase of economic instability, especially in the countries of the third world
- Decrease of a gain of labour productivity in the American economy.

To cope with such challenges, the American companies began to actively introduce labour-saving technologies, methods of intensification of work, programmes for the humanization of work. Thus, recipes for the concept of "organizational development" played an important role in the maintenance of "social technology" by means of which these changes were carried out.

During this period there was also a decrease of interest in problems of traditional administrative styles, rights of managers, timekeeping, negotiation of collective agreements etc. At the same time this was a growth in interest in the expansion of workers´ rights, in the selection and placement of personnel, in problems of training. Research on quality monitoring and motivation of workers, on the introduction of new styles of management focused on teamwork and cooperation increased.

The concept of "self-actualization" by A. Maslow (Maslow 1943, 27–30; Maslow 1954) opens a historical page in the humanistic approach organizations. Slightly later works by such authors, as F. Herzberg (Herzberg et al 1959), D. McGregor (McGregor 1960) and R. Likert (Likert 1961) was published. These were the times of the actualization of ideas of self-comprehension of workers, as bases of their solidarity with administration, and also identification with the purpose of firms and corporations.

Psychological period in the American companies began from corporate programmes of organizational development. These programmes also acted as a practical realization of ideas of "new human relations". Originally in the USA organizational changes were developing as means of improvements relevant to companies' demands for efficiency and profitability. At the same time, these programmes gave workers an opportunity for personal development and satisfaction of their social needs.

T-groups, team work seminars, training managers´ skills in interpersonal communications were widespread. The focus of managerial attention was directed at individuals and their aspirations to personal growth. The Senate of the USA held public hearings in 1972 on the theme of alienation of workers, and the Ministry of Health, Education and Welfare of the Nixon administration has published a report entitled "Work in America" (U.S. Department of H.E.W., 1973;

U.S. Senate Hearings, 1972). Increase in the degree of control of production by workers through job enlargement or enrichment of the contents of work was offered as a recipe to improve the situation

Procedures of organizational development were directed at the creation of an atmosphere of openness. The personnel were oriented towards the comprehension and resolution of problems, instead of concealment. Managers were to support their authority in the organization by the authority of knowledge and their own competence. The plan was to move the centres of decision-making as close as to the sources of information, to establish relations of trust and cooperation by means of increasing the degree of consciousness and self-management of employees in the organization. For this purpose managers in general were to be informed on the main aspects of the lives of the subordinates; and the companies organized joint public activities after work and at week-ends.

Managers motivated workers; they delegated responsibilities to them, empowered them by as many duties as they could really fulfill, i.e. the authority moved from offices or from individuals occupying posts onto levels of operational decision-making. Managers became agents through whom requirements for solving problems were transferred. External motivation was replaced by internal motivation. In A. Etzioni 's terminology (Etzioni 1961), the opportunity for the participation of employees in management was considered as criterion of efficiency of organization management.

In "psychological school" management in Europe was divided according to the acceptance or non-acceptance of the American "advanced" experience. Many European countries differed away from the development of industrial democracy. Thus, in Germany and Sweden the increased degree of participation of European workers emerged in the creation of work councils. In the countries of the European Community principles of industrial democracy were already included in the basic edition of

Member States' industrial policy in June 1970. The decision promoted the separation of administrative functions from the functions of supervision and control. The fifth Instruction of the Commission of the EU, published in September, 1972, offered an introduction of practice of a joint management in all Member States in 10 years.

For various reasons, UK management aspired to avoid industrial democracy, especially directors from among the workers. The practice of British Steel Corporation and the Post Office from the point of view of management appeared unsuccessful. Vigilance towards directors from among workers was reflected in the unsuccessful practice of the introduction of the recommendations of the Commission on Research of Industrial Democracy, as mentioned by Bullock (Bullock 1977). The same ideas were voiced by Mills, saying that the spirit of UK rationalism did not promote the acquisition of American practices of the voluntary cooperation of management and trade unions with an orientation towards the expansion of participation of workers in daily decision-making (Mills 1978, 143–152).

At a given stage of development of management interaction between universities and business in many respects continued the tendencies of the previous stage. The universities carried out numerous studies directed at the harmonization of the interests of firms and corporations on the one hand and society with its various components on the other. This period to some extent gave the most favorable opportunities for the universities to act in the humanistic role of specific defenders of employers' interests. The universities managed to speak on behalf of social responsibility; it was possible "to impose" social responsibility on the administration of firms and corporations. Such a mission of universities appeared to be successful to a certain extent. Personnel management gained popularity; in the firms departments of personnel management with rather large staff were created.

For this period the following activities are typical: fairly active invitations of various advisers on management issues by large companies, corporations acted as initiators and sponsors for carrying out of the research commissioned of the universities, of scientific organizations, capable of solving their problem of growth and development. In addition, intra-firm informal training, its forms and methods, accumulated managerial practices gradually became a subject of special cultivation, and was purposefully developed.

2.6. The entrepreneurship period

The entrepreneurship period covers the time from the beginning of the 1980s to the end of the 1990s. Numerous contributions to the Financial Times by Lorenz (Lorenz 1986, 8, 18), by Dixon (Dixon 1986), by Dodsworth (Dodsworth 1986, 14), by Done (Done 1986, 14), and Rapoport (Rapoport 1986, 8) gave the analysis of ideas of such experts as Tom Peter (Peters 1989), Kenneth Blanchard (Blanchard, Johnson 1983), Edward de Bono (de Bono 1986). Here the ideas of such advisers as Henry Mintzberg (Mintzberg 1973), Rozabeth Moss Kanter (Kanter 1985), and Michael Porter (Porter 1985) were analyzed. Works by Iacocca L (Iacocca et al. 1985), Victor Kiam (Kiam

1987) and J. Carlzon (Carlzon 1987) also proved popular. The circulation of books on management published by these authors, can be a good barometer of the relation of experts the authors of the new period of management development. There were a number of essential reasons for such changes.

First of all, the stress in the strategies of the economic development of the leading countries changed. The USA began the introduction of the information society. Economic activity, as Heller mentioned, moved from manufacture to sphere of services, from manufacturer to consumers, from "force of muscles" to intelligence (Heller 1990, 32–36). The given phenomenon took place against a background of rapidly changing market environment, of dynamic development of new technologies, a deregulation, and liberalization and removal of frontiers. The authority of monopolies was weakened by a surplus opportunity and money.

In management there were also serious changes. Levels of definiteness of traditional administrative tasks decreased sharply, the priority of management as a source of decisions was questioned. Thus the intellectual level of the great bulk of a labour increased; now their opportunities to make a contribution to the decision of organizational problems was extended. The principle of a hierarchical structure of management appeared to be essentially devaluated; without regard to organizational levels, managers should take into account the opinions of other agents of manufacture: shop workers, buyers, suppliers, representatives of infrastructure. A strategy of mobilization of a firms own workers who proclaimed, as such quality circles, industrial programmes for public and for internal entrepreneurship.

At the beginning of the 1980s in the success of business, the success of regional development the value of corporate social responsibility increased sharply. Thus, for example, in 1981 in the USA a Round Table on Problems of Business was held; the participants accepted the joint statement on corporate responsibility. According to this society expected that companies´ management would give equally a close attention to serving both public interests and private interests in making a profit. The following groups of influence – consumers, employees, local communities and society as a whole, and also shareholders were identified. Such politization meant that management of the external communications, external contacts of firm became a priority task of the presidents of the companies. The companies increased the rate of payment to be received by experts responsible for public relations (PR) and relations with the state bodies. Like politicians, heads of firms and corporations should project an image of fighters for voices of candidates.

During the same period in the eyes of the business elite, the popularity of traditional personnel management departments appreciably decreased. As Guest mentioned, personnel management departments could not provide the companies with the potential benefits from efficient personnel management, which were given to them by reality (Guest 1987, 503–521). The recession of 1980th which have affected both the USA and Western Europe resulted in decrease in the volumes of manufacture and an increase in a rate of unemployment. Naturally, the question became topical: what kind of contribution could personnel management practices bring for the mitigation of its consequences? And though discussion this situation was far from over, practically

everywhere there was a reduction in the number in employees of these departments. Firms and corporations began to assign all growing responsibility to line managers regarding personnel issues. Legge (Legge 1978), Beer (Beer et al. 1985), and Horwood (Guest and Horwood, 1980) considered that the reasons for such changes were revealed as a result of the analysis of the roles of personnel managers and the prevailing target orientations of employers of that time.

Models of achievement of excellence propagandized by gurus were very popular. Many of the Japanese and the advanced American companies acquired new practices in human resource management. R.M. Kanter noted that the application of benchmarking played a significant role in the distribution of systems of the organization of work with a greater degree of participation of workers in management (Kanter 1985).

Similar processes in slightly more emphasized form can be seen in the example of the UK. A dramatic growth of unemployment there at the beginning of the 1980s meant an essential redistribution of economic authority for the benefit of employers. According to Littler and Salaman, it has compelled employees to accept changes which were unacceptable before, such as obligatory presence at work during certain hours, temporary employment part-time work (Littler and Salaman, 1984). Accordingly, as in the 1930s, employers managed to cut down wages, to extend working hours or to introduce strategies of a direct intensification of work. This naturally has reduced the interest of employers in complicated techniques of reorganization of the process of work.

In these conditions such managerial practices as quality circles quickly appeared. Originally they tested and fully mastered under Edwards Deming's influence in Japan in the 1950s. Imported into the USA in the 1980s, quality circles underwent a rebirth there. Quality circles helped American companies to strengthen their positions in international markets. Such circles created a climate of solidarity of all levels of the personnel, where each worker could realize the creative qualities and opportunities. It helped the personnel of firms and corporations to further master new technologies. As a whole, such a precedent showed advantages of cross-cultural cooperation, characteristic for globalization. Experience of the use of quality circles, mastered and advanced in the Japanese business, bring now could be transferred to the American firms, which turned out to be beneficial for all participants of a business exchange, an exchange of managerial technologies. Works by W. Ouchi (Ouchi 1981), by R. Pascale and E. Athos (Pascale and Athos, 1982) devoted to the comparison of the productivity of Japanese and American companies. The book written by L. Iacocca (Iacocca, 1985) was accepted as a generalization of successful managerial techniques used in American companies. It showed prospects for the development of companies focused on the realization of regular reconstructions.

The entrepreneurial period of the development of management has created a favorable atmosphere for such administrative ideas and techniques as quality circles and corporate culture. According to of J. Thackray, "business and ideas in the field of business have received an effective push for development" (Thackray 1986, 69–114). Rapid development of entrepreneurial culture had a beneficial influence on students in business schools. Effective entrepreneurship became the most demanded form of

activity among talented and vigorous people in the USA. It was an effective idea to increase the competitiveness of the company due to its internal transformation, focused on the formation of entrepreneurial behaviour among the nucleus of its personnel. At certain stages of development of the company it was expedient that those or other workers, those or other managers set up their own enterprises, for example in the form of concrete spin-offs, collaborating with the initial company. Certainly, each member of such a nucleus of the company was under an obligation to the company as whole. All concerned professed a spirit of teamwork. Thus, they removed any limitations concerning what the company could achieve regarding growth, profit and market share. Certainly, such suggestions could have an effect during the expansion of the markets.

The given period caused a real boom of entrepreneurship. Its economic importance was mainly explained by macroeconomic reasons; for instance, demographic parameters in the USA, such as increase in the number of new workers when the large companies stopped employment, certainly could be listed here. But, perhaps, the beginning of the information society was decisive. Due to this, in the USA there was a real industrial revolution, the country became the leader in the manufacture of computer technology, software. This created additional opportunities for the progressive tendencies of a decontrol of the markets, which had long been making a road for itself. At this time there was a flash of activity in economy in the sphere of services. Here the number of new workplaces increased sharply from 15 to 20 million.

During the same period there were radical changes in the social and economic role of media. For the first time in history financial and economic questions attracted such wide and publicity. As mentioned by Thackray, media and large corporations actively cooperated to provide advertising for themselves and for managers (Thackray 1987, 69–70, 72 and 75). To support the leading segments of business, a wide system of mass media was used.

The epoch of entrepreneurship became an era of celebrities from the world of business. The image of leaders of organizations appears to be a rather important factor of competitiveness and success in business. Galbraith described how new tasks, increasing and large responsibilities were assigned to departments of public relations (Galbraith 1983). During the entrepreneurship period the image of advanced and powerful organizations in many respects merged with the image of leaders of these organizations. Entrepreneurial research was redirected towards inside the company in the form of intra-corporate innovations or “intrapreneuring”. This process was mentioned by Pinchot (Pinchot, 1985). It is interesting that thus wide introduction of Total Quality Management (TQM) methods promoted the distribution of quality circles in the UK.

For this period it is characteristic that management studies were accepted as topical and demanded by firms and corporations. Moreover, training was no a monopoly of the universities, specialized training organizations. Large companies already had extensive experience and knowledge, which allowed them to act as initiators of training programmes. The initiative of the Association of Industrialists of the UK acted as a characteristic example of that time. This association financed the filming of an educational video film written by T. Peters and R. Waterman on “Management by

walking around". It was not their first experience. Earlier, they had promoted one of the most widely widespread managerial techniques of the 1980s – briefing groups. Such practice and forms of training continued and developed the international exchange of experience in the field of management, since in Europe the ideas of the American gurus in the field of management have been well received. According to K. Lorentz, Europeans were open to American ideas (Lorenz 1986a, 18).

During this period in reciprocal relationships between universities and business the focus of the initiative in updating management, the development of its new techniques and principles shifted from universities to large corporations. They took more initiative having declined to be obedient or critical listeners and students. To a certain extent interactions between business and universities could be called as a dialogue. However, the participants in the dialogue still believed that their regular contacts could sometimes be useful, but, basically, each of them might be developing quite independently. In addition, essential activization of large companies in duplicating the distribution of the experience showed that training at the workplace, innovative knowledge acquired and accumulated in real firms, corporations, started to play an essential role sometimes given an importance comparable to the information and training of the universities. Many recommendations of the gurus of management are directly addressed towards ways to improve methods and forms of informal training in firms, the training of managers and other personnel in these workplaces.

2.7. The innovative – information period

The autonomy of business and universities, and also of some other organizations was gradually lost during the innovative – information period of development of management, since at this time processes of becoming of global information society were under way (Castells 1996). These processes involve both business, and systems of training in an essentially different system of relations. A number of technologies and industries, which have traditionally been separated from each other, to some extent merge; completely new industrial branches and sectors of services appear. It is natural that former methods of organization of inside and inter-company interrelations are essentially changing. Certainly, large multinational corporations act as leaders of processes of globalization. They develop transnational trade; they acquire a foothold in other countries, coming closer to their consumers. Here they gain an opportunity to more precisely and thoroughly master the advantages of concrete regional or national conditions. Due to such processes, research and development, manufacture, marketing, finance and services are step by step being built into a global network.

Conditions favorable for both education and business processes of liberalization and the deregulation of the markets are developing; borders are more and more transparent. Accordingly, flows of finance, knowledge, goods, services and labor can circulate more and more freely. These processes determine the transformation of the economy into an economy movable by innovations and based on the use of knowledge, as pointed out in the Organization for Economic Cooperation and Development

(OECD) report of 1990 as modern information-telecommunication technologies are formed (OECD, 1990). They involve businessmen and the educational organizations in global networks, (OECD 1998). The process of technological change is also essentially changing. There is an extension of the number of its agents, which cooperate with each other and whose actions need to be coordinated. However, due to the development of information technologies, the speed of the required transactions is increasing sharply. Therefore there is an opportunity for the growth of innovative efficiency mentioned by Pavitt (Pavitt 1998, 433–451). Naturally, there is an acceleration of the growth of capital of scientific knowledge as it is promoted by processes of cooperation and the specialization of agents of technological change.

Such processes, certainly, are conducive to the development of universities, for organizations creating and disseminating knowledge. The demand for both knowledge, produced by them, and for highly educated experts prepared by them is increasing. However, universities are being moved from formerly exclusive positions in the creation of knowledge topical for technological development. This is apparent in at least two aspects. The first is connected to the fact that in the modern world the dictatorship of the consumer is becoming a reality. The consumer dictates to business, and business, in turn, dictates to universities. The former universalism of universities is over. The former authoritative stance of the universities, based on their strategic far-sightedness, appears to be affected by the democratic authority of the consumer. This tendency usually meets with resistance from experts used to operating in another paradigm (Sviridov 2003).

Another aspect is connected to the fact that diverse knowledge advancing innovations mainly do not proceed from scientific institutes, as was pointed out by Berkhout (Berkhout, Wouters and Shaffers, 1997). Knowledge appears to an increasing extent to be organized around technological areas of an applied nature, see OECD (OECD 1998). Accordingly, the market policy of universities, organizations creating knowledge, should be more precisely oriented to the new situation, to a new ratio of sources of scientific/basic and applied knowledge.

The position of business in the globalizing world as also changing, likewise the strategy of firms and corporations. As Emery and Trist underlined, globalization, deregulation and liberalization of markets, development of IT technologies, intensification of scientific and technological development serve to intensify competition, creating special areas of turbulence in the business environment (Emery and Trist 1965). This leaves companies no choice. Now they are compelled to develop more refined, information capacious strategies. Companies should transform the development into a continuous and maximally intensive process. Active participation in research becomes a necessity. To not be ruined under the burden of new challenges, they should specialize in areas where they have advantages in knowledge and experience. The efficiency of innovative process now appears indispensable to the survival of firm, before the classic superiority of quality, utility of services for consumers and an outstripping market entry.

From Hodgson's point of view, more specialized companies can produce and apply more radical innovations, more often than less specialized companies, since the more

specialized knowledge a company has, the easier to it to produce even more related knowledge (Hodgson 1999). This phenomenon is interpreted by Arthur as an increasing return logic (Arthur 1996, 100–109). Naturally, in addition to the advantages, specialization causes companies appreciable burdens as they become dependent upon the knowledge of other organizations. They are compelled to generate a regular exchange of knowledge with clients, suppliers, technology transfer institutes and other participants in cooperation. An essential role in such networks is played by the universities; in fact they deliver this "knowledge" simultaneously in two forms: in the form of scientific production and in the form of the graduates – the future employees of the companies, who have contained significant knowledge.

As a whole, innovational process includes such essential branches as a flow of social innovations. Here Schienstock and Hämäläinen include organizational changes inside the companies and between the companies, new styles of management and new forms of participation of the personnel in firms´ activities, new social techniques and new services, new service practices and new institutes, since technical changes and organizational re-structuring are closely interconnected (Schienstock, Hämäläinen 2001). In many respects it is also connected to the fact that knowledge contained in organizational forms and in human capital, in social practices, in business culture, etc. is a specific form of knowledge. Such knowledge is called implicit knowledge; nevertheless, Edquist considers that it is an essential factor of success of innovational process as a whole, strong factor of competitiveness (Edquist 1997).

Accordingly, innovations in many respects are initiated by such essential reasons, as: processes of training at the workplace (training in practical experience), new connections in business cooperation (training in interaction), new chances to realize former knowledge in changed conditions (a transfer of knowledge).

Innovations are frequently produced during daily business activity. A significant part of knowledge can be referred to the category of tacit knowledge and is generated by training at the workplace. Frequently it turns out that innovations cannot be separated from the daily working process. During production producers develop their technologies or organizational forms in an experimental way, by trial and error, where interactive training is a key element of innovations. In fact training is always realized through communication between people or organizations having complementary knowledge.

Thus, if any social subject undertakes to optimize the development of training as an important element of an innovation system, he should take into account not only the new reciprocal relations between business and education, and not only the originality of their new functions in innovation networks; he should also take into account the originality of processes of both formal and informal training, and characteristic features of their interaction. Regarding managers, such dualism of formal and informal kinds of training is emphasised. Today training at the workplace gets increasing value, imperatively demanding more special monitoring, and special efforts in its coordination and development.

Relative stability of technological and knowledge paradigms may entail both advantages and threats. For Perez, stability helps synergetic harmonization of

organizational, institutional and cultural structures of economy, paving the way for a long-term predicted economic growth (Perez 1993, 357–375). However, as Grabher mentions, this may lead up a blind alley – a blocking models which have lost their innovativeness can block the development of the economy (Grabher 1993). Becoming traditional practice and mechanisms of training can block innovation training and reduce it to so-called adaptive training.

In order for the training of managers to respond adequately to the innovation challenges of the global information society, on the one hand, it is important to duly investigate and reveal tendencies, developing in a variety of modern business processes and processes of training of participants in business life. On the other hand, it is necessary to direct these processes to ensure optimal development, avoiding possible dead ends.

3.
The development of management in Russia: theory, practice, training

3.1. Preconditions for the development of management in Russia

Traditional society in Russia has existed until around 1860, after which as a result of the abolition of serfdom, the period of the formation of an industrial society began (Pavlov-Sil'vanasij 1988, 148–149)[1]. Approximately during the same period as in the USA, in Russia an attempt to develop and apply the principles of the scientific organization of work was undertaken. Attempts were made to apply principles of scientific management in town of Lysjev, in the Urals, at the St. Petersburg Aivaz factory. The activity the scientific school of Professor N.I. Savin started here. By 1915 Russia had eight enterprises operating on the system of F. Taylor (Koritski et al 1999, 7–8).

As a whole the statesmen of pre-revolutionary Russia appreciated the importance of higher education for the development of the economy in the country, for the increase of the capacity of its managers. From 1804 to 1905 five serious reforms of Russian higher education were carried out. Due to the activity of the well-known Russian reformer, Minister of Finance, S.U. Vitte, in 1892–1903 polytechnic institutions were established in Warsaw, Kiev and St. Petersburg, the higher mining school in Ekaterinoslav and the higher technological schools in Moscow and Kharkov were founded. S.U. Vitte is the author of the idea of the creation of higher commercial education in the country, which would act in many respects as an establishment aimed at manager training (Mitin, Bolotin 1996, 5).

Unfortunately, such a successful beginning of the development of scientific management found no further support in the social and economic conditions of the country as a whole. Russia twice experienced strong and lengthy reformation shocks – at the beginning and at the end of the 20th century. A backlog of institution of management from dynamically transforming internal and external social and economic conditions was one of the major reasons for the shocks. Nevertheless in the last hundred years Russia experienced two periods of active development of management. The first

1 The author specifies that from prehistoric antiquity till the 17th century the basic establishment in Russia was a homing community; sovereign national assembly (*veche*), from the 13th century to the middle of the 15th century such establishment was the large feudal landed property (princely and seigniorial ancestral lands, *bojarshchina-senjorija*), and from the 16th till the 19th century the basic establishment was the class state, *soslovnoe gosudarstvo* (the Moscow monarchy, St. Petersburg absolutism).

was in the 1920s and 1930s, and the second – in the 1960s. At the beginning of the new millennium there again signs of a new stage of active development of management.

3.2. Management in the first decades of the Soviet era

It is obvious that in the 1920s the development of the theory and practice of management has been connected to a shift from the administrative system of the period of "military communism", which is called "*glavkizm*" by many Russian experts of that time. The fruitful transition begun during this period towards NEP (New Economic Policy) has demanded economic independence for the primary production units; it has required the scientific organization of work at workplaces. It is natural that it also required a substantiation of the division of labour among the subjects of management. At that time the chairman of the *Vysshiy soviet narodnogo khozyaystva (VSNKh SSSR)* the All-Union Council of State Economy or Supreme Council of the National Economy in the Soviet Union. of Russia from 1921 to 1925 P.A. Bogdanov already clearly saw the basic problem of the organization of the economy of that time as a primacy of centralization, suggesting steps of decentralization as a recipe of improvement: "We can operate correctly and well only if we follow the principle, e.g. organs of control to be put closer to factories, whereas the management of industry as a whole should be centralized" (Sovetskaja upravlencheskaja mysl' 20-kh godov 1990, 19).

Certainly, during this period the national economy faced a deficiency of experts-managers of all levels, from foremen to directors of enterprises, to the ministerial officials. However, ways of recruiting them, ways of preparation appeared to be much deformed by specific social practices, which were dictated by a rigid and rather active than populist ideological paradigm. The needy strata of the population basically supported the authority of that time; and this support was kept and strengthened. For these strata of the population, the rhetoric about the highest level of the democratic character of the organization of all without any exceptions of life of the country, including economy and manufacture was one of the most attractive sides of the social doctrine. An aphorism "a cook can run the country", which crystallized from the theoretical assumptions of ideologists of the socialism, responded to the dream of wide sections of the population (Lenin 1976 vol. 34, 287–330). And if any person without special administrative preparation can run the state, there is no problem managing a laboratory, a shop, or a factory.

Such ideas, certainly, considerably opposed attempts to organize special training in management, prevented the spread of Taylor's ideas in Russia. But whence knowledge and experience for the performance of administrative functions can then be taken? The example of the Russian Federation has shown that up to a certain level of development of manufacture, up to a certain level of complexity of organizations "training at the workplace" can compensate the deficiency in special formal training of managers. Up to the end of the 1930[s] so-called "*spetsy*" (specialists/experts) helped in industrial production, in the development of the army. These were representatives of technical

and military intelligence originating from "former noblemen" or from "the bourgeoisie" as it was called at that time. Quite often experts from Europe or America were invited for the creation of new manufactures. In a sense, the training of Russian managers of this period by forces of "*spetsy*" mentioned above is relevant to the representation of such modern forms as: preceptorship – (mentoring), coaching, work-shadowing, action learning, deputizing.

The recruitment of managers was carried out to an even greater degree on the basis of principles of training at the workplace. The practice of life determined the ability to lead people. The question was first of all about the degree of loyalty the system and the leadership qualities of the applicant for the role of a manager. In the first years of a new regime, the concept and practice of "*vozhdizm*" (leader-ism) was popular. Concrete branches of economy, large factories, and the ministries found "leaders", who were expected to have a specific charisma, the ability to subordinate the employees, to rally them and to inspire them for vigorous work with maximum efficiency. Party and trade union organizations, labour or educational collectives, in which an applicant for a post of the manager earlier operated, acted as experts on the quality and sufficiency of this charisma.

Units of the party, trade union organizations, divisions of labour collectives acted as original training teams, where future managers practiced their leadership qualities, qualities of functionaries in the apparatus of management. For this purpose there were the practices of the party, trade union assemblies, assemblies of labour collectives. Special activities, presenting effectiveness, the initiative of every organization mentioned, elections of functionaries, analysis of personal issues, development of "work plans", "*subbotniks*" (joint work-days on Saturdays), demonstrations, organization of holidays, etc. were carried out. In the personal files/records of workers, in work-record cards both work experience and experience of their supervising work were registered. The success of this kind of work, the amount of experience, positive attestation from the party and trade union structures served as significant factors in the promotion of managers to higher levels in the managerial hierarchy (Chernysh 2008, 16). If the worker was not a member of the party, his career as a manager could not be a successful one. He had chances to be promoted to the level of a foreman, whereas a director of an enterprise without a party card was a rarity.

A noticeable deviation from the principle "a cook can run the country" was creation of the higher school and the system of training of party functionaries in 1918. During the same time the Higher School of the Officers of the Army, later named as the Military Academy was created where military leaders were trained. The system of HEI of that time was considered as a "smithy for the staff" for the administration of industry, the national economy. However, here again during training the stress was on special engineering knowledge. The prevalence of so-called "practitioners" in administrative systems of the economy, in production management is a characteristic feature of the named initial stage of Russian – Soviet management. They were workers with professional experience, but no special education/diploma.

Organizational forms of production management were a subject of discussions among Russian experts at that time. Such a form was soon chosen – trust understood as

an association of enterprises, acting independently on the market, and responsible for more effective utilization of accessible factors of manufacture. The state and during the last years of existence the new authority, allocated huge sums for the development of industry, but the original irrevocable financing gave up its place to financing due to the state credits. Thus, the role of the market, cost accounting, a degree of correctness of a combination between industrial activity and commercial increased. In this connection, the greatest Russian expert of that time, P.A. Bogdanov focusing his attention on the problem of balance between centralism and democratism, assumed that centralism ("*glavkizm*") generated an excessive regulation of the actions of leaders, dangerously, reduced their responsibility for an overall performance of their enterprises.

Various Russian politicians, managers and scientists of those years took part in development and discussion of the problems of management, namely A.K. Gastev, F.R. Dunaevsky, O.A. Ermansky, P.M. Kerzhentsev, E.F. Rozmirovich, F.E. Dzerzhinsky, V.V. Kuibyshev and many others (Koritski et al. 1999)[2]. At that time the Russian government gave the status of a state policy to problems of development of the scientific organization of work (NOT) and management. The 12th congress of the RKP(b) (Russian Communist Party, Bolsheviks) held in April, 1923 especially analyzed problems of the universal introduction of NOT and management. Even the new commissariat led by V.V. Kuibyshev was established to be responsible for managing all issues of rationalization in the country. The Soviet Union Scientific Organization of Labor Council (SovNOT) included B.B. Kuibyshev, A.K. Gastev, E.F. Rozmirovich, etc. Special rationalization bodies were created from top to bottom not only at factories, but also in trusts, central administrative boards, in the Soviet Union Council of the National Economy (VSNH). The responsibility for the organization of rationalization work was directly accomplished by the chiefs of the VSNH, the central administrative boards, chairmen of trusts, and director of enterprises. "It is necessary to understand that rationalization of manufacture", wrote V.V. Kuibyshev, "is not a simple entering of amendments, but real reorganization on the basis of achievements of science" (Kuibyshev 1925).

V.V. Kuibyshev (from 1926 – Chairman of the VSNKh, and from 1930 – Chairman of the GosPlan, i.e. State Plan of the USSR) was a supporter of the concept of constantly developing the control system of economic and social life of the country. He often repeated that it is impossible to once and for all construct an ideal control/administrative system, and that it is necessary to reconsider it and to improve it on the basis of the new scientific data and the analysis of quickly varying political-economic conditions. During the same period the doctrine of the participation of workers in production management was developed and achieved practical introduction. The speech goes about so-called "counter-plans", about "socialist competition".

By the middle of the 1920s the contours of the new economic policy carried out under the following slogan began to appear: "To transform the country into an advanced industrial power, to strengthen its international authority", and the contours of the new division of authority. In the country discussion on the efficiency of NEP

2 Here ideas of N.Osinskij, A.Rykov, S.Strumilin, V.Bazarov, V.Groman, N.Kondratjev's on the rational organization of management in the country are analyzed in detail.

mechanism of managing was started. The authoritative economist, the theorist of that time, a member of the VSNH Presidium A.G. Goltsman (Gol'tsman 1926, 8) promoted the activization of authoritative – administrative, non-market methods of management. He was supported by another well-known theorist of that period, N.A. Voznesenski, who wrote that in the Soviet economy there were no spontaneous laws of development, that its movement was determined by its people, namely, the working class under party leadership. Such tendencies were realized in a widely known specific phenomenon of Russian socialism – "the cult of Stalin". The NEP has been liquidated, and for long years the inert command system was established in the country. Contrary to the prevailing rhetoric it was completely unfit for changes, although attempts to somehow reform it were made a regular basis.

In HEIs that prepared specialists, part of which would become managers, pedagogy served as a specific component of training; regarding functions it should have served as an analogue of management courses of the western leaders/managers. Interpretation of pedagogy of that time very much resembled instructions on the manipulation of people, techniques for the formation of an authoritative, conformist personality. Such an understanding of pedagogy acted as a continuation of the practice of ideological dictatorship, ideological compulsion of workers. By this time the process of dismissal from supervisory positions of those workers who with no higher education started to gather momentum. Earlier the popular category of "practitioners" has got a negative connotation, the leader like a "practitioner" became an anachronism. The majority of them had to start their studies in evening HEI, the technical universities.

But, certainly, informal training, training at the workplace served as a basic form of management training. Such a form of training most precisely corresponded to the social, ideological paradigm, prevailing in the life of the country during this period. However, the complex of practices of such informal management training was rigidly regulated, and was made a duty of both collectives and functionaries. These was about a regularity of carrying out of party-economic actives, production meetings, assemblies of labour collectives, party and trade union assemblies for the discussion of personnel questions, problems of functioning and development of economic and administrative organizations. This specially concerned organized structures "best practices exchange", the organization of socialist competition the nucleus of which was the original training of participants, training at the workplace.

The significant part of such informal education was considered by that time theorists, ideologists of the regime as an important specific kind of "socialist upbringing". It is interesting that service in the army was considered an important element of that kind of upbringing that even such semi-official and grandiose program documents of the then authorities as "Materials of Congresses of the Communist Party of the USSR" invariably included military service in armies in the "education" section. A manager aspiring to some serious career promotions should certainly take this specific form of education.

3.3. Evolution of management 1950–1970

By the 1950s in Russian higher education some courses were started, which in their logic and initial ideas resembled Taylorism: organization of work, value of labour productivity, factors and reserves of its growth, normalization of work, and organization of payment, planning of work, formation and use of manpower. The specifically educational discipline adjoined this complex: the scientific organization of work.

The most intensive attempts to reform the administrative-command system to include elements of democracy in its control system were undertaken in the 1960s. During that time, in 1965 the "Kosygin Reform" was undertaken. In practice it failed, however although temporary, it imparted some creativity to the Russian management theorists, it initiated scientific discussions and generated some interesting ideas. "It is known that the scientific development of problems of management was cut down in the 1930s and was only carried out in recent years", as D.M. Gvishiani, the author of the well known socio-management monograph pointed out, "It resulted in the fact that... the approach to issues on the organization of management had only an empirical character, being accompanied by many mistakes..." (Gvishiani 1972, 16). One of the typical mistakes was ´technocratism´.

The second essential motive for the initiation of changes, undoubtedly, was the lagging of Russia behind the West in the field of management of economy, management of industrial production, and also in the field of research on the ´human factor´ in production, becoming obvious to the majority of experts. D.M. Gvishiani's monograph was response to these challenges; it gave a scrupulous description and a structure of the management theories developed and used in USA corporations.

To the middle of the 1970s, due to the penetration of ideas and the some practices of western management into Russian economic life, the volume of knowledge of the future Russian managers noticeably increased. The following courses had already been taught at HEI: organization of work and labour productivity, technical progress and increase of labour productivity, normalization. Such courses included here: socialist competition and wage issues, reproduction of labour force and professional training, standard of living of workers and a number of others. The active development of problems of the automation of administrative activity began. For the period 1966–1974 about 2 thousand systems of ASU (Automated Systems of Control) were created, including 733 ASU of organizational type, 596 ASU of technological processes, 429 ASU of the territorial organizations, 85 ASU of the ministries and departments, 75 automated systems of information processing (Economika truda 1976).

Step by step, these changes have gradually resulted in a situation in which the traditional tool of management of the Russian command system "TekhPromFinPlan" began to be replaced everywhere by plans of social and economic development under the pressure from party district committees. However, it regrettably did not change the essence of the directive control system developed over many years. The range of objects required and needed to be dealt with the centre, was only extended.

Thus, it is possible to state that even such evidently necessary attempts at reforming an out-of-date control system were impeded by the conservatism of a social system. They were also impeded by the aspirations of apologists of the Soviet system to intensify totalitarianism as its principle. Position of the then prominent theorist V.G. Afanasjev is interesting in its uncompromising and consistent attitude: "Mechanisms of management are those practical measures, means, levers/instruments, stimuli by means of which organs of control influence a society, a factory, any system of social order in order to achieve the purposes they are aiming at, in order to solve the problems they are facing" (Afanas'ev 1977, 63). Accordingly, during this period, into the sphere of direct state control they began to openly include even those objects which in democratic society express the spirit of human personal freedom: objects of culture, literature, art, science, public health services, legal institutions, education.

Accordingly, the question of the direct control, practically, of manipulating the human (of manipulating people) was regrettably solved "positively". "Regardless the stage of the development of public relations, – wrote A.E. Mushkin, – a society should always, as a cumulative aim, make individual aims subordinate to society, a society should regulate public relations, should supervise the actions and acts of individuals" (Mushkin 1978, 127). People's social roles were announced as an effective control, a means of manipulating a person. To operate the person means, first of all, to determine the place of each individual in the public system, his functions, rights and duties, his social role" (Afanas'ev 1977, 206). Thus, according to the apologists of authoritarianism, roles do not appear as naturally as, for example, the roles of father, voter, employer or worker, and are assigned by those with the right to operate. It is natural that during this period "personnel management" had not yet emerged as an independent subject.

During this period the task was assigned to the HEIs of the country: to train specialists, including experts on management. By this time it was clear that there were many official positions in the organization of the national economy, in the organs of control, which could only be filled by experts with a special higher level of training/education. However, the most essential part of this preparation was devoted to the ideological disciplines, to special educational influences, which should guarantee the loyalty of the future expert – manager.

Informal training, training at the workplace still served as essential addition to the formal training. Such a form of training corresponded most precisely to a social, ideological paradigm, which prevailed in the life of the country during this period. However, the complex of practices of such informal management training was rigidly regulated; it was made a duty for both collectives and functionaries. The question was about the regularity of carrying out party-economic measures, `production` meetings, assemblies of labour collectives, party and trade union assemblies for the discussion of personnel questions, problems of functioning and the development of economic and administrative organizations. This also included specially organized structures for the ´exchange of best practices´, organization of socialist competition, the nucleus of which was the original common training of the participants, training at the workplace.

3.4. Management in the last decade of the Soviet era

By the middle of the 1980s the Russian social and economic system had drifted noticeably towards a strengthening of liberalism, towards an increasing orientation to western values, to western theories and western practice of management. The innovative concept of management of the social and economic processes offered by A.I. Prigozhin, the author of works on the theory of management is interesting. From his point of view, such management should be based on a dialogue of the basic actors in the administrative process: managers and those controlled, employers and trade unions, such management relies on the principle of a social partnership (Prigozhij 1988). Thus, in saying `transition towards the dialogical type of management` the author means the development of diverse forms of participation of workers in management, a shift from state to state-public management.

Accordingly, the significant mechanism of social and economic reforming, according to A.I. Prigozhin, is the start of new purposes and values by embedding them in already developed social movements of the following types: democratization of economic life, participation of workers in management, increase of production efficiency, improvement in the standard and quality of life, strengthening of the protection of needy sections of the population, etc. By this time practically no expert doubts that a manager is a professional of a high level, whose training demands high quality and long training.

By this period in the country a steady network for the training and upgrading professional skills of the managerial personnel had already been created. About 700 senior/top managers graduated annually from the Academy of the National Economy under the Council of Ministers of the USSR. About a hundred of these graduated from the biennial branch, 600 from three-month courses to improve their level of qualification. About 2000 managers of enterprises representing industry, construction, transport, communications and trade, their assistants, and also managers of shops, department stores and building sites were trained at the facilities of the organizers of industrial production and construction functioning at 11 higher schools of economics of the country.

In addition, 750,000 managers of different levels were trained at six specialized and at seven republican inter-branch, and also in 64 branch institutes for the improvement of professional skill and in 130 their branches. About 400,000 managers and experts were trained annually on permanent courses for improvement of qualifications created in the ministries, departments, and also in the enterprises, research organizations, higher and special high educational institutions. In total about 1.2 million managers underwent annual training and improvement of professional skill (Sistema podgotovki i povyshenija kvalifikatsii rukovoditelei 1985).

An interesting innovation of that time was the so-called ´electivity of managers´, which was determined by the law: “In the enterprise electivity of managers (as a rule, on a competitive basis), providing improvement of quality of structure of managerial

personnel and strengthening their responsibility for results of activity is carried out. The electivity principle is applied concerning managers of enterprises, structural units of associations, factories, shops, sites, farms, units and other similar divisions, and also foremen (paragraph 2 of chapter 6 of the Laws on the enterprise; chapter 99 of the Basics)" (Nastol'naja kniga khosjaistvennogo rukovoditelja 1989, 495). They were selected either by the common meeting or conference of the labour collective using secret or open ballot for periods of 5 years. To manage the competitions, competitive commissions whose structure included representatives of the councils of collectives, their administrations, the party, and trade union and other public organizations, and also highly skilled experts in the respective areas were specially created. Half a year after the passing of this law, the labor collectives elected every fifth manager and every tenth job foreman (Trud v SSSR 1988, 8).

3.5. Features of the development of management during radical social and economic reforms

From the middle of the 1990s, when economic reforms in Russia at last became irreversible, global achievements of management could be freely introduced in the country to enrich its economic and business culture. Foreign companies were actively attracted to the country, which got used to operating with such concepts as ′labour market′, competitive ′personnel selection′, ′resume′, ′interview′, ′career advancement′, etc. That part of company management that directly concerns the human factor, as in the West began to cover an extremely broad spectrum of functions (Gutgarts 2001, 21–22). In Russia due to the radical reforms conducted, the training of managers was sharply intensified, as witnessed by the example of the structure of higher education in St. Petersburg, Table 3.1.

Table 3.1
Numbers educational institutions offering higher education to experts in various fields in St. Petersburg and the Leningrad Region (2006)

Type of educational institution	Quantity	
	Total	Of which training in management
1. Military	32	31
2. Humanities	21	2
3. Culture and art	26	2
4. Medical	8	–
5. Maritime	14	13
6. Pedagogy, psychology	20	2
7. Religious	5	–
8. Agricultural, agrarian	5	5
9. Technical	83	72
10. Transport	7	7
11. Physical training	3	–
12. Economic, social studies	72	65
13. Legal	5	–
14. Universities classical	29	23
15. The training centres	156	79
Total	**486**	**301**

Calculated according to*: Higher Schools of St. Petersburg and the Leningrad Region. The hand-book for matriculants, SPb, Intermedica, 2005.*

From the data in Table 3.1 it is clear that in St. Petersburg and the Leningrad Region there are now 486 HEIs, offering bachelor's and master's degrees in various subjects. Of all higher educational institutions in this region 62% have either a faculty of management, or one of the subjects in which management training is offered. In those HEIs equipping experts for concrete branches of economics, as a rule, training in management appears also to be specialized, for example, `material support manager`, `tourism manager`, etc. However, this rule has numerous exceptions. Many HEIs having lost their former popularity aspire to compensate the loss by including `management of a broad profile` into the structure of the fields for which they train graduates.

In addition, in the region there are 156 educational centres, 79 of which offered managerial training in specific fields: personnel manager, sales manager, PR manager, etc. As a rule, a standard course in management comprises 40 contact hours. Thus, the structure of the programmes included various seminars and other training. Some of the educational centres actively engage ODL (open and distance learning).

Since St. Petersburg is now less elite than Moscow, the structure of higher education in this city, including the Leningrad Region, is rather close to what is typical for the Russian Federation as a whole. Accordingly, the share of HEIs which managers form a significant share of graduates, as well as in the general set of HEIs of the country is not less than 62%. In total, in Russia in 2004 there were 1,046 HEIs. This means that managers graduated from 648 Russian HEIs. All this shows the exponential

growth of the popularity of the specialty of ´manager´ in modern Russia. Management is the most actively offered specialty in the educational services market, both in Russia, and neighboring countries[3].

Certainly, the practical results of improvement cannot be realized immediately in this sphere. Regarding this development of management in 1997 the country was ranked rather low at 49th in the world; however, given such parameters as technological development, institutional environment, infrastructure, finance, government, Russia was also ranked low in the scale: from 49th down to 52nd. Russia took the last 53rd place on complex parameters such as competitiveness, economic growth, growth of the market (The Global Competitiveness Report 1997). Naturally, for some time for Russian HEI a 'complex of provinciality' will be characteristic, since during that period there will be outdated textbooks on economics, published in the USA more that 30 years ago (Andreeva 1998, 201–207). Nevertheless, starting from 1991 in the majority of HEIs of the Russian Federation western textbooks on economic sciences and on management are already in use by Russian students and faculties (Kotov 2004, 193). The paradigm of market relations, the democratic structure of society is gaining ascendancy in the formal training of Russian experts, especially managers.

3.6. Internationalization of the training of managers in modern Russia

At the same time, a sign of the times is the internationalization of processes of the training of Russian managers, since reforms in the Russian Federation have opened the way for the international support of the development of education in the country. Thus, for example, from 1991 to 1994 under the aegis of TACIS in the country 15 projects were carried out. The following appeared to be the most successful among them: `Teaching of economics in the higher economic school´, `Studying management in the electrical power industry´, `Opportunities for the expansion of management training, research and consultancy: the Northwest Russia´, ´Estimation of activity in the field of management training´ and some others. A new project was included in the plan of TACIS activities for 1997 "Integration of former military men into civil society".

Since economy, law and management have been recognized as the most important areas by the Tempus program, nowadays several projects are financed and are carried out by consortia from the higher educational institutions of various regions. Some countries, EU Member States render financial and technical support to projects intended to accelerate education reform in Russia. Some of these are carried out within the framework of the initiative launched in July, 1997 by President Yeltsin at the conference "Management Training for Russian Organizations". The purpose of the project is to support the training of experts for the development of a market economy in Russia.

3 http://www.training.com.ua 15.05.2006.

A continuation of these initiatives was the DELPHI Program carried out under the aegis of TACIS from 1999 to 2001. It aimed at the development of effective models of improvement of the education system at federal, regional and local levels to integrate education reform into the reforms of the economy as a whole in order to orient the education system to the future, to the envisaged demand for experts. From 2003 to 2005 the following stage of the program – DELPHI-2 was carried out. Here the question was about services in the field of training for administrative staff, vocational training and education, open and distance learning, and also consultation on questions of policies in education.

From 1997 one of the most effective tools of state policy in the field of improvement of quality of management by enterprises is the State plan on Training Managers and Executives for the Enterprises of National Economy of the Russian Federation, formed and realized according to the Decree of the President of the Russian Federation on July, 23, 1997 № 774 (it is known as the Presidential Programme) (Kontseptsija Gosudarstvennoi programmy podgotovki upravlencheskikh kadrov v 2007/08–2011/12). During its existence in Russian educational establishments and consortia more than 34,000 young managers have graduated, of whom 1,5000 of managers completed training in Russian and 8,600 in foreign companies. Due to training on this programme 67% of graduates have improved their official status in their companies, 39% received employment offers from Russian or foreign companies, 9% established their own companies, 7% were invited to work in authorities.

One of the main tasks of the Presidential Programme trainees entailed assisting the transition of the Russian organizations to new management principles. This task was accomplished successfully: 47% of companies – participants of the programme began re-structuring, 87% accomplished projects on development, and 37% attracted additional investments. Due to the international nature of the programme, participants an opportunity to promote the integration of Russian companies into the global economy. As a result, 59% of Russian companies directed their employees for training and established regular foreign economic relations, 40% made contracts with foreign companies. Opportunities for cooperation with the foreign partner organizations were limited to the format of programmes of technical assistance; nevertheless, as the analytical data have shown, the high efficiency of the Presidential Programme is universally approved.

In 2007 validity of the State Plan on Training Managers and Executives for the Enterprises of National Economy of the Russian Federation in 2003/2004–2006/2007, authorized by the Decision of the Government of the Russian Federation in 2003 came to an end. But the need for further participation of the state in the training of administrative staff was reiterated among heads of subjects of the Russian Federation and advanced Russian companies. Therefore, the Commission on the Organization of Training Managers and Executives for the Enterprises of National Economy of the Russian Federation started a qualitatively new State programme of training for administrative staff for the next period.

This program takes into account the experience accumulated during the realization of the previous stages of the program. In order for managers who have received

additional training to effectively realize their increased potential, it is important to intensify structural reform of the economy of Russia, to create competitive factories for the maintenance of import replacement. Finally, it is necessary to ensure the entry of Russian enterprises onto the international market. It is impossible without an essential improvement in the quality of company management. Unfortunately, in the majority of companies a rather low level of general administrative culture persists, with no strategy for human resource development.

Accordingly, not only continuation of assistance to the lagging companies in improvement of quality of management, but also the creation of an institutional environment ensuring the maintenance of a high level of administrative culture in advanced Russian companies and its dissemination to probably a greater number of managing subjects is incumbent upon the state authorities.

In order to achieve continuity in the training of the administrative staff and to increase the efficiency of their deployment according to decisions of the *Commission of MinEconomRazvitie* (Ministry of Economic Development) of Russia and the Program of the European Union TACIS MTP (Managers' Training Program), the joint project on the creation of sustainable institutional formations of the Commission, e.g. regional resource centers of the Presidential program was carried out as of 2004. The administrations of subjects of the Russian Federation were the founders of the first five centers. These regional resource centers are capable to accumulate potential of graduates, regional educational establishments. Due to this and using the infrastructure of the Commission, their aims are as follows:

- Assistance in the improvement of management at Russian companies
- Assistance in the formation of effective personnel selection at regional, municipal levels
- Organization of the training of experts in organizations of the national economy of the Russian Federation, including within the framework of the State programme
- Promotion of professional standards, of the most successful managerial practice
- Support for innovative projects conducted by participants in training
- Assistance for processes of the international economic integration and the establishment of mutually advantageous contacts among Russian and foreign partners in the field of human resource development
- Rendering services for the improvement of professional skills and retraining of personnel, and also the organization of consultation for companies on a wide spectrum of questions by attraction of Russian and foreign experts.

The successful development of the regional resource centers network assumes the maintenance of the coordination of their activity, the maintenance of their contacts with Russian and foreign partners. In order to accomplish this task, the creation of a federal resource center would be expedient. The creation of such a federal resource center and the regional resource centers would allow executive authorities to officially transfer part of the powers for the implementation of the State programme and other Russian and joint programs and projects to a specially appointed organ. Due to such actions,

Russia could partly compensate the present curtailing of the TACIS Programme in the field of training of administrative staff.

4.
Conditions and tendencies in the development of Russian education, in the formal training of managers

4.1. The new paradigm of education, an assessment of its efficiency

To assess the adequacy of the education of managers in Russia necessitates a more precise look at its place in the whole system in which it functions. In our opinion, such a system is most essentially influenced by that global competition which is characteristic of today's information society. As in this case the question is about Russian managers, the relevance of their education is determined by the extent to which they promote the real growth of competitiveness of firms and the Russian economy as a whole in the global market. Thus, we are concerned with those specific conditions in which Russian economy functions as a whole, its separate branches and corporations, those real chances which could seriously be expected.

In the information society there is a tendency to move competition between states into the sphere of education, science and technology. Higher education is quickly involved in the international competition of the markets for highly skilled labor and becomes an important factor in sustainable development. In fact, today the importance of compound components of the cycle of economic development is being sharply redistributed. Scientific and technical information clearly acts as one of the most essential components of this cycle. The occurrence of such information every time generates a subsequent burst of technological, economic and social changes. As a result, step-by-step the information-technological way of manufacture replaces the once dominating industrial way. Moreover, in such conditions the production of new knowledge becomes the most important result of the manufacture and consumption of information. New technologies for the creation and processing of information, new information devices are more surely serve as a new technological basis.

Accordingly, the key factors of competitive advantage of national economies as a whole and those of separate branches and corporations have changed. Not only the opportunities for the future growth of a national economy, but even its very survival depend mainly upon the position of the country in the global innovational process. The competitiveness of the country on the international market is determined increasingly by the scale of its intellectual capital and rates of its growth. As a matter of basic importance of the given category for our research, we shall consider it in more detail.

Experts involved in the estimation of the role of new factors of manufacture in an information economy, have not as yet developed a standard definition of intellectual capital. In the dissertation one approach is taken as a basis. In our opinion, the most complex approach was formulated by L. Edvinsson, M. Malone, T. Stewart (Stewart 1999) and V. Inozemtsev. They consider the intellectual capital as a unity of human and structural capitals (Edvinsson, Malone 1997; Inozemtsev 1998). The content of these categories is well illustrated by still actively discussed new tendencies of market environment, when the cost of the industrial and service companies contrasts with traditional balance estimations. One of the first such examples, which has become classic, was given by IBM Corporation. In 1995 for 3.5 billion dollars it bought the company Lotus Development whose balance actives were estimated at only 230 million dollars (Edvinsson, Malone 1997, 2, 34). Another widely discussed example is the break in the balance and market cost of Netscape Company a software developer of work in the Internet. Having own funds of 17 million dollars and little more than 50 employees the market price of the company reached almost 3 billion dollars by the beginning of 1997. The authors mentioned above attributed such a strong contrast between balance and market cost of the company as the intellectual capital of the company, which determines its ability to produce innovations. The specific knowledge of company personnel and its managers appears to be a source of value, hence the market price.

As a rule, the intellectual capital of firm is understood as the sum of scientific and technical knowledge, technologies, administrative and marketing "know-how", the sum of organizational and manufacturing experience of the company accumulated in the period of its existence. Human and structural capital are aspects of intellectual capital causing rates of development and the efficiency of its use. Accordingly, the totality of the knowledge accumulated and further developing, skills, abilities for creativity, which are realized through structure and the skill level of workers, are understood to be the human capital of firms. Thus, the human capital of the worker can be taken to include the whole of capital of health, education and culture of the worker enabling the further increase of his utility for the firm to raise the income of the firm due to the use of such capital.

The second component of the intellectual capital of a firm, e.g. structural capital, is understood as a united complex: the equipment, computer programs, patents, trade marks, etc. This complex provides conditions for the display and realization of the mental potential of each worker and the personnel as a whole. The evident attribute facilitating the distinction of these two intellectual capitals is that the human capital cannot be copied or reproduced in another organization, whereas the structural capital under certain conditions can.

The approach to the analysis and estimation of intellectual capital in the context of maintaining competitiveness, in our opinion, can be applied not only at a micro level – within the framework of the analysis of the activity of a firm, but also at a macro level – within the framework of the analysis of development of the country as a whole. Such an approach is close to that accepted by the research project of the World Economic Forum "Competitiveness: the Global Review" (The Global Competitiveness Report

2004). The concept of the project corresponds to the conclusions of the neoclassical theory of economic growth and rather new models of endogenous growth, in which the dependence of the competitiveness of the country on twelve major factors simultaneously exercising the greatest influence on long-term economic growth is postulated. The twelve factors include: development of institutions, physical infrastructures, macro-stability, safety, human capital, efficiency of the commodity market, efficiency of the labor market, efficiency of the financial markets, level of technological development, openness and size of the markets, development of the culture of business, innovation. Each of these factors embodies a significant part of the initial parameters describing the position in a corresponding area.

Comparison of the various countries on the given groups of parameters enables a rating of each country, and serves to identify problem zones in the functioning of the economy and perspective points of growth. As is known, given the Growth Competitiveness Index Rank, Russia in 2004 was in 70th place out of 104, regarding the Business Competitiveness parameter 58. Its estimations at this time were a little more favorable in the field of the macroeconomic environment at the 56th place, on the level of operating culture activity of the companies (Sophistication of Companies' Operations) 58th place, on Quality of the National Business Environment 58th. There was a slightly worse situation in the field on the level of technological development (Technology Index) 67th place and in the field of development of public institutions (Public Institutions) 89th place (The Global Competitiveness Report 2004).

Identification of the rating of Russia on parameters: Innovation, 25th place out of 104, and Technology Index 67th place, caused certain difficulties. On the one hand, the conditions for the development of research and development in the country were favorable: higher and compulsory education were on a high level, numbers of Internet terminals increased, but the high level of development of scientific research institutions fell, yet still has significant developments. On the other hand, in activity of technology transfer Russia ranked low at 83rd. The same goes for the protection of intellectual property rights and use of foreign technologies under license. It indicates a gap. In Russia there remains a significant potential for scientific and technical development, but this potential is underused. Low ranking on all groups of factors describing the structural capital of Russia also confirm this fact. The reason for low demand for intellectual potential lies in its inefficient use.

The model of estimation described of the intellectual capital urgently demands a new paradigm for the management of the economy. It demands a paradigm which should be focused on the maintenance of the competitive advantages of Russia; certainly, it must be based on three processes – training, innovation and organization focused on the "creation of knowledge". According to the level-model of intellectual capital considered above, it is expedient also to form management at three levels – individual, group and national (Zavgorognjaja, Mierin, 1999, 86).

The maintenance of competitive advantage of the country is based on the development, first of all, of human capital, in particular – qualification potential. Thus, certainly, organizational conditions for growth and for the structural capital must be remembered, since structural capital incorporates conditions of stability in the

maintenance of the competitive advantages of the country. It assumes accumulation of knowledge materialized in various forms of scientific and technical information, such as theoretical and applied R&D, patents, licenses, technologies, trade marks, etc.

The data of the World Bank, in which experts investigated 192 countries, is a good argument for that assumption. It turned out that only 16% of growth in the transition economies due to physical capital, 20% to natural capital, another 64% is related to human and social capital. The most advanced countries receive up to 40% of GNP as a result of development of an effective education system (Mitin, Bolotin 1996, 5). From the economic point of view, investments in the development of education pay off most quickly. According to American experts, one dollar of investment in an education system yields 8 dollars of profit (Sokolov 1998, 8–14). The creation of an information society leads to sharp growth in the share of highly skilled employees in an aggregate number of those employed in manufacturing. For example, in the USA at the end of the last century almost 90 % of able-bodied population were employed in the production of goods, and only about 10% in various kinds of intellectual work; whereas by the present time no more than 40% are employed in production of goods, and not less than 25% of people are engaged in labor activity have higher education (Antipina, Inozemtsev, 1998, 20).

As a whole, the analysis of the labor market in the advanced countries shows that a priority in rates of a gain of employment among the staff with a high level of vocational training belongs to the experts with the higher and average special education. Those experts have the strongest and most direct influence on the growth of labor productivity through their professional work. Thus, for the period from 1960 to 1995 the share of experts with higher and average special education in an aggregate number of those employed in the national economy of the USA has increased from 14% to 58%. For the same period, in the USA the mid-annual rate of the gain of labor productivity at a rate of 1.6% was accompanied by an increase in employment among the staff with the higher vocational training in 3.6; the staff of an average level of vocational training – in 2.8, and unskilled labor – in approximately 1.7%. The shift of the characteristic of individual labor towards strengthening of intellectual issues appears important. In the USA the educational training of unskilled labor in 1980 was from 10.5 to 12.1 years of training; while those with the highest professional level had on average from 12.4 up to 16.5 years of education.

A change of priorities in the structure of factors of manufacture, increase in the role and value of human capital maintaining conditions of sustainable economic growth and competitive advantages of the countries within the framework of the global market have actualized the basic problem of the controlled development of human capital. This is the reason for the sharp increase in attention to managing subjects both on regional and federal level regarding the following tasks: search for mechanisms of investments in the development of human capital, formation of institutions providing expanded reproduction of human capital. All this urgently demands new approaches to the formation and improvement of development of the training organizations. In other words, becoming an information society has resulted in a new paradigm of management within the framework of which development of the organizations occurs,

mainly, through training and innovation activities. Certainly, it essentially changes the role and place of institutions of education in a modern society. Accordingly, in training the Russian managers we shall analyze working tendencies in the framework of the new paradigm of education mentioned above.

4.2. Basic tendencies in the dynamics of Russian higher education, training of managers

In the last century the system of higher education in Russia passed through some phases of stagnation and activation. We shall consider the period closest to the present, which has left the greatest impression on the managers analyzed in the present dissertation. Thus, the middle of the last century is seen by the majority of Russian authors as a period of, perhaps, the best rates in its development (Zavgorognjaja, Mierin', 1999, 86). In the period 1940–1950 support for higher education here was considered to be the major task of the state. For example, in 1940 the country spent 1% of its national income on its higher education, in 1950 as much as 1.6%. The Russian educational programs had high international authority. The basic points of these programs were borrowed by other countries; they were anyhow taken into account in their strategic programs of maintenance of national security. The American Congress in 1958 passed a law on education aiming at the national safety and has radically changed a state policy concerning education.

For the last 50 years relative expenditures for higher education in the USA steadily grew: in 1940 – 0.7% of national income, in 1958 1%, in 1968 2%, in 1978 2.9%, in 1983 3.1%. The share of the national income spent on all education, by 1980 reached almost 12% and was kept at this level until the present time. From the beginning of 1960 to the beginning of the 1980s investments in education increased in the UK and in the USA by 3%, in Germany and Japan by 4, in France by 5.5. In the 1970s and 1980s the developed countries spent not less than 9% of their GNP on education. By the beginning of the 1990s the share of expenditures for education of GNP in France was 7.1*%,* in Japan 6.3%, in the USA 6.1%, in Germany 4.5%. On each schoolboy in one year the USA state budget spends 3,572 dollars, in Germany the figure is 2,167 USD, in France 2,257 USD, in Italy – 1,356 USD. In 1990 the Commission of the European Union allocated one billion dollars for the support of education in the five least advanced countries in Europe.

During the same period in the Russian economy and social life there was a crisis. Starting from the 1960s the state expenditures for the development of education began to be reduced; and financing of education, science and culture was transferred to a residual principle. Thus in 1980, only 0.8*%* of the national income was spent on higher education in the country. In addition, the ratio of expenditures on the higher education given per student to the national income per capita on the eve of "reorganization" fell to 0.3–0.4 (Sokolov 1998, 8–14). According to the World Bank, the share of expenditures for education in GNP in Russia was 7% in 1970, in the GNP of Russia in 1994 it was

3.4%, i.e. reduced by 2 (Smolin 1996, 12). In the 1970s and 1980s the reduction was rather slow, whereas in 1990 – it was dramatic.

From the middle of the 1980s the United Nations in its definition of humanitarian conditions and opportunities for social and economic development of the countries has used the Human Development Index (HDI). The calculation of HDI is based on the educational level, alongside with parameters of life expectancy and real gross national product per capita. The parameters of the last two components of that period have been falling in Russia, though they were previously not very high compared to the developed countries. However, very high parameters of education allowed Russia even during the planned economy to enter into the group of leading countries. In 1992 on the HDI parameter Russia occupied the 52nd place out of 174 countries, in 1994 the 67th place. During the years of radical reforms Russia fell dramatically to the 119th place (Rakhmanin 1997, 5). The development of educational institutions was excluded from the priority directions of the economic strategy of the country. From the twenty main parameters of economic security on the basis of the strategic priorities of the development of the Russian Federation, there was no parameter reflecting the development in the sphere of education. Accordingly, volumes of financing of education from the federal budget alone were cut by half almost: from 1.27% of GNP in 1992 to 0.61% in 1998. However, it is necessary to point out that government experts were well acquainted with the fact that the threshold/level of safe development – is 5% of the GNP.

The following figures give an indication of the depth of lag of Russia compared with the economically advanced countries of the world, given the investment in one person. According to the Institute of Economy of the Russian Academy of Science, in 2001 real expenditures for one person from all sources of financing amounted to little more than 60 dollars, whereas in the USA the corresponding figure was 3,000 dollars, in the countries of the European Union over 1,500 dollars. In 2000 in the USA the state appropriations for education exceeded 150 billion dollars, in Russia – about 30 billion rubles (about 1 billion dollars). The total expenditures on education in the USA amounted to 456 billion dollars, in Russia 200 billion rubles (about 7 billion dollars). To carry out one of the last reforms of school education in the USA for 2002 alone five billion dollars were allocated.

It is natural that in conditions of almost total absence of state support, and a steady deficit of financing described above the priorities of educational establishments are displaced towards searching for their own sources of financing, to the detriment of the development of quality of the educational process. From 5 up to 6 thousand persons have been leaving the sphere of science and education annually, about half of the total number are scientists and teachers (Sudarenkov et al 1998, 5). In addition, of the remaining assistant lecturers and docents of HEIs, 90% of their time was spent on searching for additional income (Vishnjakov 1998, 182). Such a situation began to threaten to lead to the collapse of the system. Among students of that period migratory moods began to be observed, from a quarter up to third of students of Russia would like to leave the country, and in Moscow this parameter amounted to 85% (Vishnjakov

1998, 179). The process of disintegration/collapse of scientific schools was more and clearly taking place.

Due to the growing prices for oil and gas, and also due to some growth in the volumes of their production, by 2002–2003 the Russian government had an opportunity to stop the stagnation of economic activity in the country. Accordingly, again the problem of manpower, a problem of improving their quality occurred. By this time in the governmental structures opportunities have appeared to pay attention to culture, sciences, to education and to other institutions and structures providing manpower quality. The governmental documents of that time stated that "expenditures for culture, science, education from budgets of all levels during last ten years are lower than were the minimum level stipulated by the laws of the Russian Federation" accepted in the sphere of education "About education", "About science and the state scientific and technical policy", "About the higher and post-graduated professional training". Total expenditures of the federal budget for education, science, culture, public health services, ecology in 2000 made up 9%, whereas the necessary minimum, to keep these spheres from disorder, is 12–14% of the federal budget" (Osnovnye napravlenija 2002). In addition, here it was noted that in 2001 expenditures on education amounted to 0.63% of GNP, whereas, according to the project of the federal budget for 2002, expenditures for these purposes should amount to 0.74% of GNP. These figures accordingly at 2.5 and 2 times are less than it is stipulated by the law "About education". Expenditures for higher education in 2002 were planned at a rate of 2.3% from the supply part of the budget, which was less than in 2001 (2.4%), and less that was required by the law "About the higher and post-graduated professional training" (3%) (Osnovnye napravlenija 2002).

In our opinion, the excessive negative tendencies in the sphere of Russian higher education, which reached its zenith by the end of the 1990s, was gradually replaced by a balance, and by 2004–2005 started to move in a positive direction. Starting from this period, the positive changes accumulated during the post-reform time gradually became distinct.

Though with significant losses, nevertheless the system of higher education has managed to get over the crisis, and has managed to adapt to the changes by 2002–2003. In 2002 the share of first-year students studying in the state and non-state higher education on a paying basis, has exceeded a half, having reached 54% of all those accepted. Commercialization of the educational process has allowed higher education to dramatically increase the number of students accepted: from 1995 to 2001 the number of students more than doubled: from 2,655.2 thousand up to 5,426.9 thousand persons. The density of students of higher education in the structure of the population has risen from 190 up to 332 out of 10 thousand.

The number of HEIs has grown considerably: from 514 in 1990 up to 1008 in 2001. Of these 621were state run and 387 non-state run. At this time, there was a fast process of transformation of HEIs into "universities": in 2001 there were 304 of them, i.e. their number in 20 years has grown by 10 times. The teaching staff increased by 13%, and the share of the teachers having academic degrees increased from 13% to 15%. However, this quantitative growth was accompanied by a decrease in the quality

of education. In the opinion of the population, the appreciation of higher education has risen, 89% of young people are sure that the higher education is necessary. The choice of desirable professions seems to be characteristic; it is illustrated in Table 4.1 of Appendix 3 **(**Gudkov et al.**)**.

All professions preferred by young people already belonged to the so-called "new economy" in which businessmen, managers, experts on information technologies, economists, lawyers and other workers of spheres of services are in the lead. Former orientations of entrants towards professions of schoolteacher or HEI professor/lecturer, civil servant, scientific worker, etc. have become a thing of the past. The Russian HEIs have quickly reacted to this new demand; they have established training for corresponding specialties.

The inclusion of Russian higher education in the Bologna process, in the creation of the uniform European educational space by 2010 – is already a fact today. Accepted by the Government of the Russian Federation the concept of the modernization of Russian education for the period till 2010 is in many respects determined by the Bologna process. The Russian system aspires the creation of an independent system of certification, towards the creation of a system that guarantees and controls the quality of education, and towards strengthening the pragmatic orientation to labor markets, towards the reinforcement of the role of the state in the development of education, and towards the formation of new economic relations in the educational sphere.

This Russian system of higher education is focused on multilevel education including the education of both bachelors and masters. It is based on *models of integration* of primary/elementary education and secondary education, secondary and higher vocational training/education, maintenance of continuity of the various levels of vocational training. In addition, the principle of variability of education is followed, which means that scientific – methodical bases of construction of multivariate educational trajectories are specially formulated within the framework of a multilevel system of higher education (Variativnost' podkhodov 2002). This is necessary for the acceptance of system of the credits (Grebnev et al 2002, 14–17) similar to ECTS, according to recommendations of the Ministry of Education of the Russian Federation (Metodika rascheta 2003, 81–82). These systems help students to receive the second highest education, for example, in the field of the international management. Due to this many graduates of the Russian HEIs have an opportunity to receive the bachelor's degree of the all-European sample valid in all countries, signed by the Bologna Declaration.

Lifelong learning is also an important principle of the Russian higher education. The HEIs of the Russian Federation are guided by documents adopted at European summits (European Council Presidency Conclusions) in Lisbon (March, 23–24, 2000) and Santa Maria da Feira (European Council, 19 and 20 June 2000). These documents conclude that educational systems should adapt to the new realities of the 21st century and "lifelong learning should become the salient political program of civil society, social cohesion and employment." Such an approach has also found a reflection in the Concept of the Development of Adult Education in the state participants of the Commonwealth of Independent States (CIS), accepted at the VIII Conference

of Ministers of Education of the CIS countries in Moscow (on May, 13, 2003) IITE UNESCO, 12–13 May 2003.

Russian HEIs are also guided by the idea that the strategy of lifelong learning should be based on cooperation of authorities and public organizations, so-called "social partners" as they are closely connected to the interests and needs of individual citizens and communities. Communication between establishments of formal and informal education should also be amplified on the basis of the creation of a uniform educational network. This process is actively developing towards the creation of a system of open universities, distance learning courses, etc.; and HEIs are more actively opening their educational opportunities – to a broader section of society.

In addition, Russian higher education cardinally solves the problem of quality mentioned above. According to the Concept of Modernization of Russian Education, the main task of educational policy is to ensure the quality of education on the basis of the preservation of its fundamentality and conformity to the needs of the person, society and the state (Gavrikov et al. 2000). For this purpose many Russian HEIs use re-engineering and are trying to achieve a situation where all processes in these HEIs and universities are controlled, all processes are algorithmically connected. Such control systems, as a rule, are certificated according to standards ISO 9001–2000. Today large structures in the creation of content are actively formed. These are technological systems on content management, repositories management, systems which communicate and cooperate with national innovational system. They are intended for knowledge transfer to all – to students, teachers, and all interested parties. Otherwise knowledge already created will not be perceived in the subsequent technological stage. Modern methods and technologies of competencies management, which should become an integral part of content, are actively applied.

In modern Russian HEIs standardization plays an important role while producing content. Standards SCORM and IMS, which enable high-speed communication and fast exchanges of knowledge between universities, research centers, companies and innovational systems are actively used (Tikhomirov 2005). These standards also make it possible to construct complex technologies, which consist of large blocks, including technologies of the transformation of knowledge into content.

Moreover, modern Russian higher education is gradually becoming a basis for a national innovation system. It gives the universities a completely new place. At universities the content is developed, at universities knowledge is created. Basing on such centers the country is going to construct a new innovation economy declared by the President of the Russian Federation. Many Russian HEIs form new business environment, create techno-parks, business incubators, centers of expertise around themselves. They assume the task of not simply producing graduates, but of producing experts who, during their training have already created their business, have started up, probably, a firm. This can be realized within the framework of various activities of universities, including the Internet. For this purpose it is important to train the future expert to commercialize, to capitalize the knowledge. He should be able to sell knowledge, to know how the prices are formed, to acquire mechanisms for converting knowledge into money, to be a specialist in electronic commerce, to be able to

work and communicate effectively in networks. In this connection training experts, internationalization of education systems, internationalization of business is also important.

4.3. Educational level of Russian managers, present conditions and dynamics

The intellectual capital of a firm and the country as a whole appears to be a fruitful category for the analysis of the training of managers. This fruitfulness is shown in a number of aspects. First of all, the similarity of the internal nature of categories is evident. The training of managers in many respects proceeds as a specific intellectual process. The intellectual capital of various firms and countries can, and basically should, be mastered by an aggregate of intelligence, including, an aggregate of managers' intelligence. Second, to carry out the basic mission – to increase the competitiveness of firms, a manager should correctly adapt the chances of growth of the firm to the chances of growth of the national economy as a whole. In this sense he should correctly adapt the dynamics of the intellectual capital of the firm to the dynamics of the intellectual capital of the national economy. Thus, if the industrial policy is aiming at high-tech innovation development, managers act appropiately when they invest in the appropriate training of staff, whereas the same training in a situation when the industrial policy is focused on low-tech extraction of raw materials, would be an uneconomical waste of resources. In any case, the assessment of the dynamics of the intellectual capital of the national economy, its industries and clusters is made by the managers of firms. They also make decisions about the usefulness or uselessness of additional investments in upgrading the education of their employees.

Third, the dependence of the manager upon the level and nature of training provides him with two specific roles regarding firms, the national, and the regional economy as a whole. Thus, the manager, on the one hand, is an object in such relations, since firms and external economic conditions train firms, form managers; educational institutions train managers, "adjust" them to the standard demanded by firms and national economies. On the other hand, managers in the mentioned relations essentially act as subjects. In fact, it is in many respects their activity, their initiative to determine the adaptability of firms, their innovativeness and final success. The development of regional and national economies depends upon their activity, and also upon the initiative of managers of the federal level. The cognitive aspect of the activity of managers is likewise essential. In any case, for the development of strategy and the tactics of their own activity, they as a subject, firstly form "the vision", the concept of the functioning and development of the firm, and also the concept of the functioning and development of the regional and national economy.

For this reason, the training of managers is important to consider from two equally prominent aspects: objective and subjective. Therefore, in the dissertation, on the one hand, we analyzed what role is played in training managers by such "teachers" as firms and the features of the economy, within the framework in which firms function. On the

other hand, here we analyze how features of the perception of managers influence their training, e.g. how they interpret the features of the firms which employed them, how they formulated expectations and purposes concerning these firms.

Let us consider the most classic form of training of managers – their training in special educational institutions. In the surveys of Russian managers in 2000 and 2003 conducted by Professor Chernysh[1], a standard question was asked "What is the profile of your higher education?" The distribution of responses to this question is in Table 4.2.

Table 4.2
Structure of higher education of the Russian managers (%)

Profile of higher education	Number of those with this kind of education, in %		Change from 2000 to 2003
	2000	2003	
1. Technical	46.7	46.1	-0.6
2. Economic	18.4	22.6	4.2
3. Other humanities	9.5	11.6	2.1
4. Natural sciences	4.9	6.1	1.2
5. Business	3.5	5.1	1.6
6. Legal	3.4	4.0	0.6
7. Military	3.2	3.2	0
8. Social studies	2.7	2.9	0.2
9. Agricultural	0.7	1.3	0.6
10. Other higher education	4.5	2.6	-1.9
11. No higher education	11.9	8.2	-3.7

The sum of both columns is over 100%, because when answering the respondent could choose more than one type/profile of education.

In both columns of Table 4.2 where the initial data are presented, the sum of percent is more than 100, since in 2000, 9.4% of managers have more than one higher education diploma, and in 2003 already 13.7% of managers had more than one higher education diploma.

In 2000 those who had no higher education, but had taken a full or incomplete course in technical training college (PTU) amounted to 3.1%. Accordingly, managers who had not even started to take vocational education amounted to only 8.8% of all those surveyed. Of those managers who had no vocational education 2.1% had graduated from advanced mathematical school and 3.3% had graduated from advanced school with a language bias. The other 3.4% of managers have finished full or not a full course in a high school or in PTU.

In 2003 there were 1.4% of managers with no higher education, but with a full or incomplete education in technical college. Accordingly, managers who even did not start to receive vocational education amounted to only 6.8% of all those surveyed. Of those managers without vocational education, 1.9% had graduated from advanced

1 Professor Mikhail Chernysh from the Institute of Sociology, The Russian Academy of Sciences, played the leading role in the development of the program, in the implementation of these surveys and in the data analysis.

mathematical high school and 2.7% of those who has graduated from advanced school with a language bias. The other 2.2% of managers have graduated from a regular high school or PTU.

Thus, it is obvious that despite serious transformation occurring in the country, young people continued to aspire towards higher education, and HEIs continued to increase their "output". Employers in a situation of certain unemployment of specialists with higher education had wide choice. The nature of their preferences was shown in the dynamics of the structure of employed managers presented in Table 4.3. There is a natural assumption that employers preferred managers who had economic, natural sciences, legal or business education. Apparently their interest in managers with a technical education, and those kinds of higher education which in the research come under "other higher education" slightly diminished.

In other words, the resulted data creates an impression that the training of Russian managers, as before, definitely includes such an important stage as training at "traditional" HEIs, and these HEIs manage their task concerning the training of modern managers. At the same time, such representation contradicts the fact repeatedly met within the interviews conducted by us in the last decade. In these interviews the theme very persistently sounded: employers do not employ "fresh" graduates of HEIs. Work experience not less than 2–3 years is for employers the major criterion in the employment of an expert and furthermore, a manager. In other words, modern Russian employers trust, mainly, in long "training at the workplace". In our research there was an opportunity to check what kind of education of the manager is the stronger success factor in his activity: formal education or informal, e.g. training at the workplace. For this purpose, in the questionnaire for managers there were two special questions, the responses to which are formulated below. The first question was: "To what extent does the life experience provided here appear to be useful to your work as a manager?"

Table 4.3
Usefulness of various kinds of experience (%)

Kinds of experience	2000		2003		Growth of usefulness from 2000 to 2003
	Number	"Very" and "mainly important"	Number	"Very" and "mainly important"	
1. Communication with experienced professionals	98.5	95.9	97.5	95.5	-0.4
2. Creation of one's own firm	30.1	85.1	40.1	84.2	-0.9
3. Higher education	88.3	83.6	91.4	81.0	-2.6
4. Parental education	97.8	80.6	97.7	70.3	-10.3
5. Post-graduate course	14.8	73.1	18.8	66.7	-6.4
6. Work in CPSU organs	24.4	60.7	18.9	67.4	6.7
7. Army service	37.7	64.2	37.4	62.8	-1.4
8. Work in a big state enterprise	76.7	77.9	66.3	63.4	-14.5
9. Work in student construction teams	42.0	54.5	39.7	56.7	2.2
10. Work in Komsomol	53.1	52.0	50.4	48.7	-3.3
11. Correction institutions	1.7	42.9	1.5	45.5	2.6
12. Trade union	33.7	50.1	23.5	41.4	-8.7
13. "Street education"	70.6	32.2	74.7	20.8	-11.4
14. Other experience	53.2	79.7	52.1	91.3	11.6
Total					**-36.8**

The table shows that formal training, i.e. training in HEIs, does not counter an overall advantage as a source of knowledge and skills for future managers. It is somewhat outstripped by such kinds of informal training, as "communication with skilled professionals" and "creation of one's own firm". However, training in HEIs is no outsider among factors of effective professionalism of managers. It becomes clear that for an employer the "unity/totality/aggregate" of both work experience as an expert and the expert's higher education diploma are important. From an employer's point of view, neither a diploma from an HEI without work experience, nor the presence of work experience without an HEI diploma is considered to be sufficient for him. However, as Table 4.3 shows, the estimation of modern managers quite coincides with the estimation of employers. As a whole, it is possible to ascertain that according to managers, the importance of formal and informal kinds of education is almost equal. Both kinds of education deserve serious efforts to be put on increase of efficiency, on cultivation of most progressive forms.

At the same time, it is possible to tell that the new economic and organizational conditions of modern firms and establishments appreciably reduce the value of previous/prior formal and informal education as a whole. If we consider the whole set of estimations of the use of different kinds of experience fixed in 2000, named in Table 5.3 as 100%, for the period from 2000 to 2003 it has lost 3.9% of those managers who estimated this set as "very" and "mainly important". The value of training at the workplace received during work on a big state enterprises was devaluated most of all

by 14.5%, value of “Street education” by 11.4%, value of “parental education” by 10.3% and, at last, value “work in trade union” by 8.7%.

In this respect it looks like a paradox that by 2003 value of such experience as work in CPSU (Communist Party of the Soviet Union) organs has increased by 6.7%. But, actually, the reason for the increase in the value of this experience is fairly simple. In modern conditions the value of such “capital” of a manager as his business contacts/networks generated during his professional work, grows markedly. The skill to actively form and support various connections was the primary, basic skill of the functionaries of the party organs. This specific skill appears to be demanded by modern business, which required the growth of network connections.

The data allows us to estimate the dynamics of the efficiency of different kinds of social capital at a given stage of reforming the social and economic life in Russia. Recent social capital theory distinguishes between ‘bonding’, ‘bridging’ and ‘linking’ (Putnam 1998, Narayan D., 1999, Woolcock 1998, 151–208). The importance of an experience related to such spheres of social capital, as parental education (-10.3%) and education by street – experience adopted in neighbors’, friends’, sometimes criminal communities (-11.6) has fallen dramatically. The formation of horizontal social capital networks, categorized as bridging, is characteristic of construction groups (summer employment of students practiced in Russia). The experience of functioning in these networks, has slightly increased its value among managers (+2.2%). At the same time, the value of social capital networking, categorized as linking, has increased most significantly. This type means connections formed upwards within the framework of a pyramid of authority and influence. In conditions of a planned economy work in CPSU organs acted as a lift ‘upwards’ in making of such connections. Therefore, the increase of importance of experience received by managers during their work in the mentioned party organs (+6.7%) appears to be significant. In addition, it confirmed the fact that the structure of the top-managers administrating the industry has remained largely constant from the beginning of the reforms.

The second special question was formulated as follows: “In what other way except HEI have you received administrative training?” The data on this question is in Table 4.4.

Table 4.4
A Kind of education, supplementing HEI diploma (%)

A kind of education	Number of those with this kind of education, in %		Growth of applicability from 2000 to 2003
	2000	2003	
1. On the job	80.4	83.2	2.8
2. Self-education, reading books	68.0	73.1	5.1
3. Special training course for managers	32.8	31.8	-1.0
4. Training abroad	10.4	12.3	1.9
5. In a Russian business school	7.1	7.4	0.3
6. Post-graduate course	7.2	8.2	1.0
7. Distance education	4.1	5.4	1.3
8. In a foreign business school	3.6	3.5	-0.1
9. Master´s course	1.2	1.3	0.1
Total			**11.4**

The sum of both columns is over 100%, because when answering the respondent could choose more than one response.

The question was about a real preparation carried out by working managers, i.e. the estimations in Table 4.4 are no doubt realistic. As well as in the previous Table 4.3, in the first place on the importance is workplace training, the experience borrowed from colleagues on the job. The second position is taken by self-education, when a manager independently analyzes the practice of daily life, those work tasks where he collects experience when contacting heads and subordinates, and also studying literature of his own choice. The formal training, e.g. "special training course for managers", training in Russian/foreign business schools, postgraduate study and higher education is noticeably lagging behind.

It is interesting that the named list of management schools in comparison to that in Table 4.4, does not lose its "supporters", but gains new ones. If we consider the total set of managers using the listed schools to acquire the qualifications of a manager, named in Table 4.4 set in 2000 at 100%, for the period from 2000 to 2003 this set has gained 11.8% of the "supporters".

It is abundantly clear that, if a manager has had a favorable experience of using any kind or form of training, he will be inclined to develop success in this kind, or in this form. For the detection of such effects two questions were also formulated: about training now and about intentions for training in the future. We shall consider them in this order. Answers to the first are presented in Table 4.5 of Appendix 3.

The sum of both columns, containing the initial data, is over 100%, now that a respondent could choose more than one variant for his answer.

The data in Table 4.5 leave no doubt that self-education, training during the analysis of own experience, and also experience gained from colleagues is, in the managers' opinion, the most comprehensible to them, and the most popular kind of training. It was the most popular not only in 2000, but the demand for it even increased

by 2% in 2003. Such classic form as studying in an HEI lags behind this informal form of training. In addition, the popularity of this form decreased by 3% in 2003.

If we consider the whole set of managers using the kinds and forms of training listed to become qualified managers, set in 2000, named in Table 4.5 as 100%, for the period from 2000 to 2003 this set has received 8.7% of its "supporters". It once again speaks that the development of formal and informal training of managers is a steady tendency.

In our research an additional task was to specify to what extent experts and practitioners perceive the Russian education as one geared towards managers, as a competitive one. Certainly, it changes the sense of estimation. In the beginning they were asked whether it was, in their opinion, possible to receive good managerial education in Russia.

In 2003 optimism of estimations by Russian managers of the domestic opportunities is fairly high. After that question the following question, connected to the previous one was: "In what educational institution is it possible to receive management education?" The distribution of responses to this question is presented in Table 4.6.

Table 4.6
Estimate of Russian forms of management education (%)

Kinds and forms of education	Number of responses, in %		Growth of positive evaluations from 2000 to 2003
	2000	2003	
1. HEI	41.5	43.3	1.8
2. Practical work	31.6	33.7	2.1
3. Special Russian courses	25.7	20.0	-5.7
4. Russian business school	12.9	16.7	3.8
5. Self-education, reading literature	16.0	16.6	0.6
6. Special "foreign" courses	10.4	9.4	-1.0
7. Training department inside the company	4.3	7.7	3.4
8. Distance education	4.5	4.7	0.2
9. Other educational establishments	1.4	2.3	0.9
10. Difficult to say	6.9	5.8	-1.1
Total			**5.0**

The sum of both columns is over 100%, because when answering the respondent could choose more than one response.

It is absolutely clear that the stress of such estimation is transferred to the comparison of the listed Russian forms of management training with forms applied in Europe, in the USA, in Japan, etc. In other words, the answers resulted in Table 4.6, respondents expressed their subjective confidence that the Russian HEIs train for management no worse than the western HEIs. The same comparative character is typical of the estimation of the presence or absence of opportunities in Russian firms to give novice managers enough advanced conditions for management training "in practice". Then it becomes clear that, from the point of view of managers – practitioners, Russian firms offer conditions for training slightly less favorable than the western firms. In other

words, the training potential of the Russian HEIs is lagging behind potential of the western HEEs? less, than the training potential of the Russian firms is lagging behind potential of the western companies. Thus, in the opinion of the practising managers, the conditions of informal training in Russia are noticeably lagging behind the conditions of formal training.

If we regard the whole set of managers, who consider the listed kinds and the forms of management training to be acceptable (in 2000, see Table 4.6) as 100%, for the period from 2000 to 2003 this set gained 5% of the "supporters". One more conclusion follows from this comparative estimation. Now that formal management training at domestic HEIs seems to the Russian managers to be not inferior to the western options, the western management training at HEIs is perceived by them also to be somewhat irrelevant to workplace training. Such data coincide with the contents of a lot of our interviews, during which managers criticized the HEI curricula. On the one hand, these programs a little bit "lagging behind life", and, on the other hand, they a little bit "run ahead", offering the future experts slightly utopian models of actions. But such partial inadequacy of HEIs, their "isolation from life" was perceived by managers as quite natural and acceptable in real life.

These data prove to be true regarding the nature of the responses to two questions. The questions are interconnected, but nevertheless they have different semantic stresses. The first is whether "special management education is necessary for a manager? The second is "What makes you continue in management education?" We shall consider them in that order.

Modern Russian experts perceive the formal education of managers, mainly as an element of an image instead of as an essential tool of their professional work. Only the third of the practising managers considered in 2000 that special education was really necessary for a professional. However, this third of managers diminished to a quarter in 2003. In the days of the planned Russian economy in the mentality of managers there was a stereotype that the education of any expert, including managers, was superfluous, its level should outstrip the level which is really demanded by modern manufacture. Therefore experts quite expected that in HEIs they would be offered/given "excessive" information. It was considered that such an "excessive training" is not a waste of time, mainly because of the fact that the received surplus of erudition is eventually useful for increasing of people's level of cultivation, for widening the general outlook. Table 4.7 of Appendix 3 shows**,** such a point of view on training or motivation for continuing special training was supported so far by the majority of Russian managers.

It is apparent that the leading motive "I want to master scientific management" does not obviously have a sufficient pragmatic acuteness. Regarding its sense and character it is rather strongly gravitates to the motive "I want to broaden my outlook". Given the motivation to continue training for receiving a more "prestigious", "interesting" or "well-paid" job, the low popularity of such motives is evident. The ratings of these motives, as it follows from Table 4.7, are accordingly the 6th, 7th and 5th places of the nine possible. Moreover, such motives as "well-paid job" and "a prestigious job" even slightly lose their adherents.

It can still be seen that today still there is a small, but quite real group of Russian firms and establishments which make the promotion of a manager dependent on whether he has passed additional training or not. It is noticeable from the table that in 2003 11.2% of firms and establishments related to this group, and the growth of the popularity of this motive for the three last years was 3.1%. It has an especially positive sense. The employer is evaluating the educational level of a manager not in a situation of employment. The employer is evaluating the educational level of a manager in a situation of prolongation of labor contract.

Thus, the general unity of factors, partly – important, partly image wise, shows that the interest of working managers in continuing education is high, and is continuously growing. Thus, in 2000 55.2% of managers planned "to continue education"; whereas, in 2003 there were 65.2% of those managers. In other words, in Russian society high prestige for formal education, including higher education of managers has been generated. There is no lack of motivation among working managers towards continuing education, towards inclusion in the process of continuing education, lifelong learning. However, it has also appreciably generated "credentialism", as a downside of the increased motivation to engage in educational processes.

It is important to achieve constant improvement in the quality of formal education. This level of education should match the needs of real production. It is useful that level of education is higher than the needs of the economy, now that Russia is heading for the creation of innovation economy.

5.
Modern conditions and tendencies in the development of informal training of managers

5.1. Functions and content of informal training of managers

Publications by Carnevale A. (Carnevale, Gainer & Villet 1990), Cofer D. (2000), Cross J. (2007), Frazee R., Gainer L., Mokhova M. (2005), Rossett A. (2006), Villet J., Wallace G. (2007), Wenger E. (1998) consider informal training basically as continuing and supplementing formal training. This is true as a prevailing tendency especially of those periods of development of the economy and social system when there are neither essential transformations, nor crises, nor conflict of social interests. Since this dissertation concerns crisis processes in the Russian economy, it is necessary to consider a comparison of formal and informal training of managers in wider context.

For any researcher it is obvious that the accumulation of managerial technologies and practices began long before the advent of training establishments, before the advent of formal training. In general, processes of people's joint work automatically create a situation conducive to creative research to the invention of ways to coordinate activities, and to the invention of techniques to manage such activities (Chernysh 2008, 32). In this sense, practices of management are spontaneously produced by people's economic activities. This process occurs and now, despite more and more active intervention of formal training of managers into the life of firms and enterprises, into the process of development and accumulation of new management technologies by firms.

It seems reasonable to ask which mode of training, formal or informal, is more productive, and whether one is superfluous. However, down to the present day it is obvious that they, at least, when regarding the constructive aspect of their influence, are complementary; they support and strengthen each other. Even if due to effective formal training, the level of professional readiness of experts is higher, it does not render informal training at all superfluous. On the contrary, more qualified experts can invent, accordingly, more advanced managerial practices at workplaces. In this case informal training, generating managerial innovations at the workplace appears to be more active and more productive. In any case, both channels of training reality can learn from each other, and be useful to each other.

In addition, formal training is, certainly, guided onto informal, in a sense is addressed to it, considers it as a result and a purpose of own efforts. In fact, formal training shows its efficiency only if seriously acquired by practitioners, if it is applied

by them and accordingly becomes an experience which can be transferred from the trained manager to the untrained one. Thus experience and skills received from formal training should certainly become a subject of informal training as a result. However, the "opposite" also holds good: experience and skills circulating in informal training can become a subject of study by experts – agents of formal training. On the basis of such study new management technologies can be invented, which become a subject of training within the framework of formal training.

Such a "technological" coherence results in the inevitable transformation of informal training, transformation of its popular practices. For example, those ten kinds of informal training which are usually analyzed in the literature, due to scientific discussions, due to the activity of advisers and training companies, gradually became a subject of formal training. In this sense it is possible to call them formalized kinds of informal training. Some of these kinds of training, their condition and dynamics are analyzed in Chapter 5.2 of this dissertation. At the same time, it is obvious that managerial processes in firms and enterprises, processes of accumulation of managerial experience will never be completely formalized. Regardless of the historical phase of development of human economic activity, regardless of the phase of development of human society, a certain "remainder" of activity of managers, of the personnel of firms and establishments will recur and be the sphere of creativity. Thus, informal creativity, the invention of informal managerial practices, informal training, apparently, cannot be stopped in the foreseeable future. Therefore, for a long time in the future the need for research on generating and developing practices of interactions of various agents of business processes, which in this or that form contain an exchange of significant information, an exchange of experience and skills will not be reduced, i.e. informal training is carried out.

There is one more aspect specifying an ineradicable discrepancy, sometimes intensifying the conflict between formal and informal in the sphere of management training. This aspect is caused by the dual nature of the development of human practice, which till now moved ahead and will continue to move ahead, balancing between standards and deviation from those standards. In fact, the formation of standards/norms, as a rule, was directly addressed to some real concrete practices in order to achieve their stigmatization, to declare their unacceptable deviation from the norm, to purposely suppress some of them and make them acceptable. Accordingly, real business activity has always been developing as an intense, disputed search and finding a compromise between, on the one hand, what is beneficial for the businessman ("deviation from standards/norms") and, on the other hand, beneficial for social system or to social groups – "by standards/norms".

Thus, in the real practice of business and of management there is always co-existence of both practices normatively comprehensible and supporting accepted social norms, and practices, normatively unacceptable that undermine norms. Certainly, formal training focuses on the training of experts in those practices which as much as possible meet the accepted social norms. But if the businessman focuses his activity first and foremost on the maximal support of social norms ideals rather he may soon go bankrupt. Real businessman operates with the maximal self-input only when he pursues

his individual interest. Accordingly, he operates, as a rule, on the verge of a fall, using and inventing practices, deviating from social norms, trying whenever possible to "optimize risks". In this connection, informal training, transfer of skills and practices to the new worker from the skilled managers of firms appears in those practices advocated by HEIs, business schools. The working, replicating informal practices result in relevant informal training.

Such a situation of divergence of formal and informal training imposes special responsibility on educational establishments. Their social mission caused by the conflict of formal and informal first, entails distinguishing and showing the discrepancy of tendencies of normative management and "informal" management, in investigating features of real business, real managerial practices. Second, the process of training should be constructed so that on the basis of existing research and the analysis maximum exact/precise criticism towards those practices, which conflict with social norms, is obvious to future managers. Accordingly, they should clarify an optimally complete system of arguments for the benefit of the social norms to be followed by business. Chapter 6.3. of the dissertation is devoted to the analysis of such issues, i.e. some most popular "shadowing practices" of Russian managers.

There is a channel or a source of training which has an exclusive efficiency and, perhaps, the greatest appreciation among managers, i.e. the real practice of management in firms and enterprises. Here the question is about those managerial practices realized in concrete organizations, the specific habitus of these organizations (Bourdieu 1990, 54). Its influence is so significant that two to three months´ training of experts in concrete firms is considered a highly useful improvement of the professional skills of managers. The developed structures of managerial practices, the level of activity of the application of these practices have a specific stability. Having a character of habitués, this structure of practices to a certain extent forms a barrier against innovations. On the one hand, it compels the novice manager to improve his activity up to the standard, of the organization level. But on the other hand, it would render essential resistance to attempts of the highly skilled expert to introduce the advanced technologies of management. Therefore, the transformations occurring in the structure of such practices reflect rather essential systemic changes, i.e. they are highly informative.

In addition, the informal training of managers like any purposeful activity has preconditions and restrictions. The time which can be used for training may be limited; restrictions may be imposed on means, access to information, external conditions of training. The analysis of some from these limits/restrictions is presented in Chapter 5.3.

5.2. Tendencies in the dynamics of formalized practices of workplace learning

For the architects of the planned Russian economy it was important to generate an effective exchange of experience, knowledge, skills between workers in enterprises and organizations. It was dictated not only by economic feasibility, but also by ideology. It was based on the notion that workers released from the oppression of competition

become actively motivated to transfer their own experience and knowledge to colleagues, partners in work, they become motivated to actively search for and to adopt the experience of other members of their collective. It would seem that due to the public property of the means of production workers can overcome natural human egoism in themselves; they can reject the practices and concealments of own or borrowed best practices of partners characteristic for the previous historical epoch. However, this did not take place. In the first years of planned economy, at the end of 1920s, the beginning of 1930s it became clear that such hopes were a utopia. This finding was one of the major defeats of the then Russian social and economic system.

In the following years attempts at reforming that social and economic system were times of new attempts to adjust the mechanism of exchange of experience between workers and managers in labour collectives. We consider the dynamics of thus in more detail.

Even at the level of the very first approximation, forms of workplace training obviously include:

- Practices of training opportunities of industrial democracy
- Practices assimilating training opportunities of organization of manufacture and work
- Forms of initiating and institutionalizing industrial creativity
- Forms directly simulating/imitating school training.

Among the forms of industrial democracy the following appeared to be most essential and stable: participation of workers in socialist competition, in regular production meetings, assemblies of labor collectives, and in the further participation of workers in the councils of labour collectives of different levels, in bodies of popular control, etc.

The productivity of socialist competition practices of organizations turned out to be poor. Developers of that social project assumed that natural, competition of workers in collectives destructive for socialist economy, from the point of view of the supporters of the idea of socialism, could be transformed into creative competition, in comparison with one reminiscent of sports. The exchange of the accumulated operational experience of collectives should act as an indispensable element of these periodically recurring acts of competition.

The so-called methodical center was for ordering and transferring forms of best practices. An concrete enterprise or division which appeared to be a “winner” of a competition, could receive the status of methodical center to which other enterprises or divisions could then appeal for consultations, for information, how to organize work to become successful. In the budget of the time of the leaders of such enterprises or divisions special time was specially allocated for carrying out such consultations. However, the main prize for the sake of which leaders strove for such a “victory” was career promotion. It was a usual practice for the head of the winning organization, becoming methodical center, to be rewarded by career top management with career advancement.

At the end of 1920s and by the beginning of the 1930s systems of payment close to wage-leveling were introduced in order to reduce the tension of natural competition

of workers, caused by the opportunity to receive more pay than other members of the collective, due to superior performance. But such competition between workers has resulted in a sharp decrease in the intensity of work, whereas the sporting competitive passion of workers keen on socialist idea did not occur at all. As a result, the system failed in the organization of work and payment on a leveling basis. Thereafter practices of socialist competition were reproduced mainly as political campaigns, as for example, the "Stakhanov movement", and become an outspoken imitation of the viability of an ideological relic. Therefore, as the channel for exchange of experience, socialist competition also appeared to be inefficient, although "Stakhanov schools" with original training at the workplace, existed up to the beginning of the war of 1941 (Gershberg et al. 1985). The beginning of radical reforms enabled firms to refuse to participate in such forms of demonstration of loyalty to former sociopolitical values and authorities. Since 1990 the practice of the organization of socialist competition in the Russian Federation has been discontinued.

Permanently functioning production meetings (PDPS) in Russia served after 1958 as one of the forms of socialist democracy, public control, practical involvement of working people in production management. It was formed in the organizations and in their structural divisions with a minimum of 300 workers. The structure of this meeting was determined by the general meeting of workers. Members gathered not less than once in three months. Here the problems arising during production were mainly discussed. Therefore, here managers basically gained knowledge and experience of solving of organizational problems which were not of a creative character. Enterprises and organizations having undergone privatization, immediately cancelled these production meetings. In a much reduced form, production meetings are held at those individual industrial enterprises, which have retained the state pattern of ownership. Naturally, this is no longer supported by the state institutions.

Councils of labor collectives were quite an exotic phenomenon in the economy of Russia. The law of the USSR on state enterprises provided for the formation of the labour councils and wide powers of such councils, and recommended wide spread introduction of the given "form of industrial democracy" (Vedomosti Verkhovnogo Soveta SSSR, 1987). In 1989 about 400 thousand councils of various levels were formed to which 4.7 million persons were elected (Pravda 1989). Basically, such a practice created favorable opportunities for all managers of the enterprises and establishments, including local structure of heads, to actively participate in development and decision-making on a wide spectrum. Moreover, this law introduced a practice of electivity of leaders of different ranks. To receive enough votes at such elections, it was necessary to prepare and to convincingly state one's own program of actions for the development of the managed division, to develop serious arguments for one's own actions and programs as a whole. Certainly, with a favorable coincidence of circumstances it could be a form of workplace learning effective for both managers and for the personnel. By June, 1988, i.e. less than half a year after the "Law on the state enterprise" came into force, every fifth director and the every tenth foreman was chosen by labor collectives in industry (Trud v SSSR: Statisticheskij sbornik 1988).

However, the beginning of the radical reforms reduced the efficiency of labor collectives, the term "labour collective" was take away from a lexicon of acting politicians. The Labor Code (LC) of the Russian Federation effective since February 1, 2002, does not mention council of labor collective as a representative body of workers at all. According to part 2 items 29 of LC of the Russian Federation while carrying out of collective negotiations, when concluding and changing the collective agreement, controlling of its performance, and also while realizing the right on participation in the management of organization, consideration of labour disputes with employers, the initial trade-union organization mainly represent interests of workers of the organization.

The following two practices could be basically attributed to those assimilating training opportunities of the organization of manufacture and work, by the example of the Russian experience:

- *Arendnyi podrjad* (lease contract), *arendnoe enterprise* (leased enterprise);
- Brigade organization of work.

The authors of the project degree expected that the united/mutual economic interest of workers representing both self-supporting brigades, and leased enterprise would cause them to perceive each other as being "in the same boat", i.e. what was beneficial for one of the participants was beneficial for the other, and at the same time beneficial to all. For this reason everyone was to support everyone, everyone would begin to transfer his experience, knowledge, know-how – to everyone capable of acquiring and using it. As a result of the campaign begun in 1987, the number of leased enterprises, the number of organizations using self-financing, i.e. *khozraschet*, increased markedly, which can be seen from Table 5.1 of Appendix 3.

Number of the organizations which were conditions of fully self-financing, i.e. *polnyi khozraschet*, increased sharply. By the beginning of 1988 76,000 enterprises employing a total of about 51 million workers worked on full self-financing and *polnyi khozraschet*. This was 39% of all employees in the national economy.

To some extent, the expectations of the authors of the project were fulfilled. In fact, organizations which adopted self-financing/*khozraschet* have turned into original educational centers where both managers and the ordinary personnel have acquired new knowledge, spending a lot of time in order to share information with colleagues. This experience appeared to be short, since a more radical transformation has transformed these self-supporting/*khozraschet* enterprises into privatized enterprises. The competition among both firms and workers inside firms began to be much stiffer. Networks of social contacts within the framework of which information and experience interchange still circulated were sharply narrowed regarding its structure.

Perhaps, the project on the introduction of brigade forms of the organization of work could be called the most successful one. Actually, production plants shifting to brigade work form became examples of the high intensity of training at the workplace. Not only ordinary workers, but also managers were involved in this process. It emerged that the brigade organization of work favors the formation of collective responsibility, and thus, the most intensive exchange of experience, knowledge and skills between the

members of a brigade. It is especially true concerning brigades working in conditions of *khozraschet*, and furthermore, working under a *brigade organization of work*. The planned system of Russia from the middle of the 1980s has seen the basic opportunity in the *brigade organization of work*; and the introduction of this form of organization of work was one of the last sociopolitical campaigns in the country. From 1981 to 1985 the number of brigades in industry, working on a self-financing/ *khozraschet basis*, increased almost 5 times (Trud v SSSR: Statisticheskij sbornik 1988, 103). However, the densities of those, working in brigades, in an aggregate number of the whole number of employees amounted to 52% in 1981, and 76% in 1987.

Nowadays, certainly, brigade forms of organization of work have lost the meaning of sociopolitical campaign. However, this form is fairly popular among modern Russian employers, especially among those who are really interested in an intensive exchange of experience between workers.

Special place in the Russian economy is occupied by forms initiating and institutionalizing industrial creativity. The basic forms include: rationalization activity and invention, quality circles, democratic dialogue and some others.

According to the basic ideological directives topical for the planned economy that rationalization activity did not serve as essential means of advantage for the author of inventions in comparison with other members of the collective; patents were not issued to inventors. Instead of patents ´inventors certificates´ were issued, which meant no real dividends to their owners as a result of their inventions. To some extent, it reduced workers motivation to participate in rationalization and invention. But as a whole, throughout the almost all time of existence of the Soviet state rationalization and invention were evident phenomena of economic and social life (Statisticheskij press-bjulleten' 1988, 75).

The practice of "defending of workers´ dissertations", from 1985 prior to the beginning of radical economic reforms acted as one kind of invention and rationalization work. An increase in the instability of social and economic conditions has resulted in a sharp decrease of invention and rationalization in Russia, with a slow revival of such activity of workers currently ongoing.

In Russian industry neither the development of 'quality circles' practice, nor 'democratic dialogue' practices had any chances to even come close to the scale of those practices typical of Sweden or of Germany. However, incidental attempts were nevertheless undertaken. Thus, in St. Petersburg from the end of the 1980s to the end of the 1990s about fifteen firms mastered this practice. Increased economic instability forced management of firms to postpone the introduction of these practices until better times.

Training at the workplace that directly imitated school training was and still is the steadiest and most popular form of training. Regarding technologies of the training process these are two groups: individual and collective. First, we shall consider individual forms. They include: tutorship, individual apprenticeship, and individual – brigade apprenticeship.

Both individual, and individual – brigade apprenticeship in the Russian economy was one of the most popular forms of learning. It was especially effective for training

qualified industrial staff in mass specialties. Compared to courses for new workers, individual – brigade apprenticeship means that two to five workers – 'apprentices' are attached to the instructor of in-service training. If one apprentice was attached to an instructor, such apprenticeship was individual. The instructor trained workers – 'apprentices' in necessary work tasks and skills connected to the qualification required for a profession. It was supposed that during training the instructor also transferred to his apprentices' the necessary theoretical knowledge. Individual – brigade apprenticeship was carried out under the curricula developed by the relevant ministries and departments. As a rule, programs were coordinated with the Ministry of Manpower Reserve. Terms of training were established by the ministries and authorities concerned as agreed with the Ministry of Manpower Reserve. The training of new workers by individual – brigade apprenticeship was carried out in the great majority of trades of various industries. Upon termination of training, apprentices passed tests in the attestation-qualifying commission of the given enterprise and were issued, as a rule, with the third or the fourth category.

If the instructor of the worker, or the manager, was a colleague with extensive experience and operational experience, such training had the status of tutorship. In order to give an official status to this kind of informal training, the instructor and his pupil were aiming at readiness of the pupil for promotion examinations.

Collective forms of training at the workplace were very similar to institutional training. Such institutions included tens of names, including schools of economic knowledge, school of professional skills, schools of communistic work, schools of advanced methods of work, schools for studying advanced methods of work, etc. Among them such for example, as 'top up training, 'courses on development of adjacent trades (at the enterprise)', etc. were the closest to of formal training.

5.3. Practice of firm management as a source of informal managerial training

A major and effective mode of informal training of managers is of real practice of management in firms and enterprises. Those of practices which are habitually and steadily realized in concrete organizations, make habitués of these organizations. These practices develop the main conditions and the basic subjects of transfer of experience from the skilled manager to a less skilled manager through tutoring, mentoring and coaching. When a manager – beginner initiatively copies the experience of his colleagues, he copies, mainly, those managerial practices, which are traditional in a firm, which make a habitués of firms. In many respects, this tells about practices of 'learning by doing, since solving emerging problems together with the personnel of firms, together with other managers is carried out and can be carried out only within the framework of developed managerial practices.

This is also typical of regions, since firms adopting managerial experience form each other gradually form a uniform culture of management, a uniform culture of business life of the region. Accordingly, training of experts in firms is directed to

assessment, and in case of positive assessment, to borrowing managerial practices, enabling successful firms to develop and to prosper.

In the literature it was repeatedly pointed out that firms' habitués in the form of managerial practices used have stability, ability for regeneration, and due to this, the ability to form a barrier of resistance towards innovations. Somewhat such habitués promote relative comfort of activity of managers relevant to the developed standards, and it puts pressure on both 'lagging behind', and 'outstripping'. A firm, which introduces advanced management appreciably outstripping the standards of the business life of the region, must spend essential efforts on compensate such pressure. If a firm ceases to make such additional efforts, its management 'slips' from a level of standards of the region. Accordingly, the appreciable shifts occurring in the structure of such practices reflect essential system changes and are very informative.

In the present dissertation an attempt is made to capture a possibly wider spectrum of managerial practices, significant from the point of view of informal training of managers, from the point of view of training on a workplace:

- Strategic management
- Financial management
- Organizational management
- Quality management
- Human resource management
- Technological management
- Public relations management

Strategic management

The St. Petersburg economy emerged slowly from the depression. All this has caused, as shown in Table 5.2, only weak activation of strategic management in Russian firms. We identified the dynamics of activity of this strategic planning according to the three attributes listed in Table 5.2 of Appendix 3.

Activity in strategic planning is certainly important for the successful functioning of firms in the global information economy, practically corresponding to an estimate of 2.00 – 'used minimally' in 2000. By 2005 it had risen a little – up to 2.37. Such a low estimate was in many respects determined by the fact that SWOT analysis, an essential component of strategic planning was almost fully ignored in 2000. At that time, only 2% of St. Petersburg firms had permitted themselves such a 'luxury' as the application of this analysis 'to the full'. An additional 4% of firms applied this tool 'substantially'. These were mainly large firms and they were completely or partly under foreign ownership. Of those Russian firms that fairly actively used SWOT analysis, large firms in light industry prevailed. Because of the crisis they were left by their foreign competitors. Those competitors did not wish to make the prices for production accessible to the population when the population had lost its solvency. As a whole, it is no surprise that SWOT analysis was practically not used during this period. In fact, it is more an 'offensive' tool of management, being relevant at more favourable stages of functioning of the economy.

Benchmarking, becoming acquainted with the competitors' experience, monitoring their and the firm's own ratings are to some extent close to SWOT analysis. Studying the competitors is more relevant in a situation where the survival of a firm is not at stake and when the market comes nearer to saturation. Therefore the data from 2000 showing the low use of this practice in firms appears natural. Only 7% of firms applied it 'to the full' and 15% 'substantially'.

Also, the activity of firms regarding the development of strategic plans remains practically unchanged, remaining at a rather low level, just under 3.00 – 'used moderately'.

Conducting market research has long been an essential component for maintaining business in market conditions. However, even an essential component may become 'unnecessary' during an economic recession.

Low activity of studying of the market, 2.19 is a significant sign of the hard general position of Russian firms at that time. Only 3.1% of firms could 'to the full' permit themselves under attraction of external firms for market research. A further 3.3% of firms could allow themselves it 'substantially'. However, 4–5 years ago such a low demand for external services to carry out market research had a natural reason. The bankruptcy of numerous firms for their surviving competitors, who appeared to be the object of the present research, the 'superfluous' space of the market has been released for some time. They could 'take a breather', respite in the relay race of market research. Partly because of that fact, managers from 22.7% of firms stated then: "We do not yet need to involve external organizations in carrying out marketing researches". And managers from 6.8% of firms reported even larger self-confidence: "We do not yet need to carry out our own market research". Own marketing researches were carried out 'to the full' by 18.3% of firms, and 'substantially' – by 23.4% of other firms.

When "*Perfecting practices of gaining positions in the market*" were analyzed, the attention of researchers has concentrated on four aspects of this strategy:

- Diversification of business – activity of firm, expansion of the product range
- Strategy of gaining dominating positions over competitors
- Strategy of cooperation, including cooperation with competitors
- Strategy of creating favorable company image

In a situation of deep economic recession the following strategies were not popular in the surviving firms: strategy to increase flexibility of activity of firm, d*iversification of business – activity of firm, expansion of the product range*. Weighted mean estimation of the strategy is 2.26. It is much closer to point 2 of the scale – 'used minimally', than to point 3 – 'used moderately'.

From the three components of the mentioned strategy "wider range of products and services" becomes relatively more active, average rating 2.93. Thus, for example, 14.9% of firms use this of strategy 'to the full'. And 26.1% of firms use it 'substantially'. It is necessary to note that as a whole such a strategy is common for Russian managers and for many decades has been perceived by them as 'basically effective'. There is no doubt that once firms have the necessary resources, this practice will be actively used. As seen in position 3 of the table, there are similar

parameters of 'success' which are used by the faithful technology of a gain of the market – "achievement of success mainly because of speed to switch from one type of production to another in a frame of wide assortment of goods and services".

The use of such a tool of management, as "doing information business, selling program products, patents" contrasts with the two practices named above. Only 0.9% of firms carried out this strategy 'to the full'. 8.4% of firms used it 'substantially'. In this point the following estimation by the managers consulted is worth additional attention. Of these 39.3% believed that in the future their firms will still not carry out information business, sale of software, patents. In other words, a significant part of the managers of the period examined estimated the prospects of development both of the firm and of industry of the region fairly skeptically. The prospect of transformation of the information in an 'organic' component of industrial production, characteristic of postindustrial society, was not perceived by managers of the crisis period as actually achievable for their firms.

The data above permits the assumption that in the St. Petersburg Region there is still very slow, but nevertheless some real re-orientation of the advanced firms towards innovative ways of development. At the same time, the opportunity for such re-orientation also depends on the general business climate and business interactions. In particular new business activity and thinking is needed, to what extent economic subjects of the region are inclined to pass from a strategy of competition aimed at the destruction of competitors to a strategy of coexistence with competitors, and even to a strategy of cooperation with competitors. Within the framework of our study it was possible to compare the counter-dynamics of both strategies.

During the Soviet era firms were self-sufficient units. There was no formal cooperation between firms. Their duty was to fulfill the plan, and they had to cope on their own with this duty. Of course there as a lot of unofficial cooperation between different firms but there were no active policies promoting this. Now the situation has changed but old ways of doing everything alone seem still to prevail.

In both 2000 and 2005 offensive strategies of expansion and strategies of suppression of the competitor were perceived by Russian managers as 'natural' strategies of market behavior, see Table 5.3 of Appendix 3.

For many Russian managers the following attitude is characteristic: it is necessary to beat competitors by suppressing them. Competitors need to be made weaker. Therefore this strategy of management even in a situation when one's own firm is experiencing great difficulties was perceived as 'right' and 'necessary' for survival. In itself the parameter of such a strategy is not too great – 2.77; it is close to the level – 'is used moderately'. But it was higher than parameters of all other managerial strategies identified in our study. The 'increased' enthusiasm of managers for a 'strategy of expansion' is also especially prominent since this parameter appeared to be more than twice as high as the weighted mean estimation of the activity 'strategies of cooperation' with other firms.

Among all other techniques gaining of new commodity markets was the most preferred managerial technique in 2000. Thus, 23% of firms use this strategy 'to the full', and 26% – 'substantially'. This seems to be quite natural, taking into account

the numerous market niches vacated by Russian firms which have gone bankrupt, and the western firms which have left, not wishing to reduce the price of their production. The situation had changed by 2005. The rate for gaining new markets had decreased to 3.07. Free market niches decreased in numbers. However, this game was still worth playing. In addition, such an arrogant/aggressive task of a firm as trying to gain a monopoly position in the market is not perceived by a significant part of managers as unnecessarily defiant behavior fraught with excessive risks and costs. Thus, 9% of managers state that they 'to the full' try to gain a monopoly position in the market for their firm. Another 14% of managers try to do this 'substantially'. By 2005 claims of success as a result of achieving exclusive positions have become even higher.

The technique of gaining in the market due to fast delivery of services was employed to a level close to average. It is obvious that it would be considerably more popular if there had not earlier been such a dramatic reduction in the number of competitors. The estimation of chances of achieving competitive success due to a reduction in the prices of products and services deserves additional comment. In such a circumstance where, as a result of sharp reduction of purchasing power of the population, firms are compelled to reduce the price of their products is quite natural. However, the significant aspect of the motivation for intentions to reduce the price of production has to be taken into account. In other words, the question relating to "To achieve success in a competition" has allowed us to test of the degree of orientation of managers towards price competition. Moving away from price competition and instead to concentrate on quality, ecological compatibility, etc. competition acts as a natural attribute of the developing economy. In a crisis situation 8% of the Russian firms analyzed used tactics of price reduction in order to gain success 'to the full', 21% of firms did this 'substantially'. And only 7% of firms believed that for them price competition was inappropriate tactics of behavior in the market. Unfortunately, by 2005 the focus of managers on price competition had increased even more.

The popularity of market strategies of partnership and cooperation among Russian managers was much less than the popularity of expansive offensive/aggressive strategies. It is no particular surprise that managers in the crisis period too seldom had intentions to build connections of cooperation with their competitors. In 2000 only 3% of firms practised this strategy 'to the full'. Another 6% of firms practiced such a strategy 'substantially', whereas managers of 22% of firms were sure that it 'is not necessary' for their firm.

The disinclination of firms to expand connections of partnership and cooperation with other firms under the clear and effective formula: "let them make a product for us, which we make worse or more expensive" prevailing at that time is more surprising. Only 7% of firms practised this 'to the full', 16% of firms practised it 'substantially'. At the same time, 14% of managers of firms of various types were convinced that it 'is not necessary' for their firm. This picture improved a little due to some activation on the part of Russian managers concerning cooperation that had occurred by 2005, but orientation towards cooperation with western firms practically had not increased.

It turns out that a counter-comparison of the dynamics of offensive/aggressive and cooperative market strategies of development reveals a contradiction On the one

hand, it is abundantly clear that offensive strategies of firms prevailed both in 2000 and in 2005. On the other hand, the implementation of cooperative strategies against a backdrop of a general revival of management as a whole is significantly higher than the implementation of offensive/aggressive strategies.

The data in Table 5.4 of Appendix 3 reveals main tendencies on the activity of management in the direction of formation and maintenance of image of firm. In a situation of the aggravated struggle in a long crisis many managers believed that caring about company image is excessive. Only 9.3% of firms made special efforts towards creating good reputation of a firm 'to the full'. Whereas managers of 10.2% of firms were absolutely sure that it is inexpedient to make efforts to build a good company reputation. Thus, they believed that charity cannot benefit to their business success.

For this reason PR activity, which has become an integral part of activity of a reputable firm, was not perceived by the majority of firms of Saint Petersburg as deserving investments. Only 1.8% of firms invested on this practice 'to the full', 11.1% 'substantially', whereas 22% of firms believed it is unnecessary for themselves.

Participation in the Russian Quality Award competition also has the same character. 26.5% of industrial firms of the city considered unnecessary to participate in this prestigious competition. Thus it is obvious enough that the overwhelming majority of managers at that time were familiar with both the conditions of competition for getting this award and its basic model, since it has been approved by the President of the Russian Federation and beginning from 1997 widely promoted nominations for this award were annually organized. The data above once again prove characteristics of Russian business of the crisis period as being rather an 'aggressive business' than a partner and respectable business.

Financial and organizational management

The most essential changes in recent last years have taken place in the sphere of financial management. Before the August crisis of 1998 the majority of Russian industrial firms carried out a range of financial operations, which were unusually wide from the point of view of many European firms. Obtaining different kinds of bank credits, resale of duties, tax exemptions, and privileges made up a significant share of the activity of firms. It was difficult to name a firm which had not been involved in the support and expansion of financial pyramids, for example in buying up GKOs (state exchequer bonds).

In the years 1999–2000 industrial firms made minimal use of financial management. Financial management appeared to be almost paralyzed. External sources of financing as a tool of management were used by only 6% of firms 'to the full' and by another 9% of firms 'substantially'. Western investments were used 'to the full' by only 2% of firms, 'substantially' by only 6%. Those were basically the firms completely or partly under foreign ownership.

Atomization of activities and relying on one's own possibilities took place in the activity of Russian firms not only in the form of a refusal to accept support from administrative structures, but also in the sphere of financial management. In particular, it has happened in the form of relaxation of attitudes towards external sources of

financing. The parameters of activity concerning financial management in 2005 appear slightly more preferable. However, in addition to cautious optimism such dynamics also raise disturbing question: why are these steps out of deep paralysis so weak and so slow?

Sociological studies by Clarke and Melin have shown that institutional and organizational configurations have been very sustainable in Russia (Clarke 1995, Harri Melin, 2003, 176–193). Although the Soviet Union collapsed more than a decade ago, only a few firms say that they have introduced major organizational innovations. In the Soviet Union manufacturing firms were not independent economic units. Firms were part of branch ministries. The firms operated in a system called "soft budget constraint" by Kornai (Kornai 1959). All financial resources were given to the firms by the respective ministries. The plan told them what to produce, how much to produce and to whom to distribute the final products. The management was based on the idea of "one man management". This meant that the director had, at least in principle, wide powers at his/her disposal. Managers did not have to think about marketing or innovations. In principle all such premises were given in advance. At the same time managers were also active in the local community. They had party duties and positions in local municipal administrations as well, see Melin (1996).

Since 1991 managerial work and managerial strategies have been changing. Most of the manufacturing enterprises have been privatized. They are operating in market conditions; this means that they have to earn the money themselves. All these changes mean that management must refocus their strategies. In the following we shall analyze the changes in this respect. Given the situation of suppressed general activity of managers, their rather low activity to develop the organization does not cause much surprise. Only three firms out of 100 were active 'to the full' in the introduction of organizational innovations. Another 8 per cent of the firms made 'substantial' use of these innovations.

Quality management

During the interviews, the respondents estimated the intensity of the efforts of their firm to improve the quality of management, as such, they assessed their own activity. In this sense they appeared to be quite self-critical. Only 5% of managers gave themselves the maximum estimation that is to say that in their opinion, the quality of management in their firms had been growing "to the full". Almost 12% of managers gave themselves a positive, but, nevertheless, not the highest estimation – the gain of quality of management in their firms was 'substantial'.

Some confusion is caused, perhaps, by the rather low activity of management to reduce (the levels of) hierarchy in the managerial structure. Only 5% of firms indicated that they had carried out such practices 'to the full'. Every fifth firm said that they had done it 'substantially'. Such confusion is connected to the fact that one of the main motivations for the participation of the personnel of Russian enterprises in radical economic reform was the reduction of excessive administrative personnel and the reduction of levels of hierarchy in managerial structures. Besides, crises persistently

demanded the laying off of superfluous workers. It would seem that the reduction of managerial layouts fits such intentions very well.

Total quality management (TQM) has been one of the most frequently used managerial methods for more than 15 years. Quality management is said to be a critical factor for success in international competition. What is the situation of adopting TQM in Russian firms today? Weak activity in the usage of the system of TQM is also evident. Quality management was not well known by the Russian managers, when our project was conducted. Therefore it was applied basically by firms under foreign ownership, or by those Russian firms whose production was exported to foreign partners. 5% of firms were using TQM 'to the full', 9.8% were using it 'substantially'. The increase in the activity of managers in organizational development up to a level 2.55 in 2005 is encouraging. This activity is closer to the estimation 'is used moderately', than to estimation 'is used minimally'.

In a situation of general economic crisis there is an inevitable downturn in the importance attributed to such managerial activity as the improvement of the quality of production. During the periods the consumer is simply compelled to buy products of lower quality. According to Table 5.5 of Appendix 3 a low (2.09) integrated parameter of activity of managers towards the improvement of quality is evident. In a sense, due to the readiness to produce goods and services of lower quality than western competitors, the Russian industrial firms managed to survive in the new crisis conditions. Economists of this period have actively directed managers of the industrial enterprises of St. Petersburg to focus on such a survival strategy (Buzanovskii et al. 1999).

At the same time, the common understanding of the fact that quality of production is a major advantages in the future market struggle is maintained even in a crisis. One fifth of the firms sustained an orientation towards improvement in the quality of production 'to the full'. One third of the firms were 'substantially' active in improving the quality of production. During the pre-crisis period managers of Russian firms were widely informed about quality standards, including such standards as ISO 9000 and its updating, Lloyd's Standard, etc. Therefore, fairly low parameters of real applicability testify to a serious deficiency in the resources of firms in the period investigated. Only one tenth (11%) of firms applied these standards 'to the full', and slightly more (13%) applied them 'substantially'. It is necessary to note that, as well as in the case of the use of TQM, managers who used these standards were in firms partly or completely in foreign ownership, or in firms selling production to a western partner. The circumstance that in 2005 the activity of the managers was directed to the improvement of quality of production, and to quality management increased little, underlines that in the Russian situation the occurrence of industry which is competitive on the international market, is still a 'postponed reality'.

Human resource management

Human resource management was traditionally the most vigorous activity of the leaders of the Russian firms. Perhaps, it is possible to say that in Russian of industrial production culture prior to the beginning of the radical economic reforms the greatest

attention was paid by managers to this very form of activity. To some extent such a principle was taken for granted: it was not so much that the personnel was involved for the sake of the development of industrial production, but that manufacture was organized so that the population could have jobs and means for its own development. The data in the following four tables reveals the real activity of management concerning the personnel, such as it was four years ago. In the present research four directions of activity of managers of firms in relation to management of the personnel have been considered:

- Increase of manageability (possibility to manage the personnel), maintenance of the control over the activity of the personnel
- Improvement in the level of self-organizing of the personnel
- Maintenance of the identity of the personnel within a firm;
- Improvement in the qualifications of the personnel.

Let us consider them in order. Management in Russian industry still placed the greatest focus on managing the activity of the personnel. The situation has not really changed in 2005.

In addition, the greatest stress has been on achieving as high as possible manageability of the personnel. In 2000 23.2% of firms applied "to the full" the system of paying the workers based especially on the results of their work. Another 28.0% of firms applied this system 'substantially'. This managerial practice is almost the most popular, second only to activity for the improvement of quality of production and services, the commonness of which and eternally topical character does not require any comments. It shows the prevailing emphasis in particular on the material stimulation of workers in the Russian firms. Such a practice shows the disinclination of modern managers to stimulate the activity of workers by qualifications and the social importance of their work, factors declared to be important prior to the beginning of the radical economic reforms.

In a certain way this is also proved true by the data on the activity of using the system of a regular estimation of workers' individual sense of duty. 11.0 % of firms apply this system 'to the full', 31.8% applied it 'substantially'. In a better situation it would be possible to assume that those other firms where the control of workers' individual sense of duty was not used, simply did not require such control and estimation, that their personnel had high a sense of identification with the firm, high sense of responsibility and self-organization. In conditions of economic depression, absence of control and absence of an appreciation of individual sense of duty is due to a more prosaic reason: managers do not have the time and strength for it. They have many other, more urgent problems. The 7.7% of firms whose managers reported that in their firm such control of individual sense of duty was not necessary used, conveyor manufacturing and so such control was carried out practically automatically.

Thus, the essential reason for the application of the group (team) work methods is that the group accepts responsibility for the control of each worker's individual sense of duty. Application of "flexi-time" system acts only as an indirect attribute of the controllability and manageability of workers. If careful enough control over the activity

of workers is not the custom then the use of a system of a flexible working day leads to disorganization of production.

The data in Table 5.6 of Appendix 3, compared to the period prior to the beginning of radical economic reforms, shows that the attitude of the Russian managers to the self-organizing of personnel has changed a great deal. This direction of activity of managers appeared to be the indisputable last resort. No activity of managers examined in our research of the year 2000 has such a low average estimation – 1.11. This estimation is the closest to item 1 on the scale – 'is not used at all'. The situation was practically the same in 2005.

Before the reforms, self-organizing of the collectives was declared the main task of society and personnel management. Such forms of self-organizing were for example: the Council of Employees, the Council of the Work Collective, etc. In the middle of the 1980s the special law was accepted and introduced into practice; it underlined the self-value of the labor collective as a social self-organizing organism. In 1994 the Committee on Labor and Social Support of the State Duma of the Russian Federation tried to achieve acceptance of the new version of the law "About a labor collective". As a reminder of this campaign, in 2000, 4.2% of firms, according to the managers, used 'to the full' the practice of supporting self-organizing of the personnel. Another 6.2% of firms applied it 'substantially'. All these firms without exception are large machine-building enterprises, which in some way kept the former traditions. Earlier there were no enterprises in which there were no trade unions. The modern position differs a great deal from the position before the reform. According to our research, in 2000 only 8.8% of the firms was support of trade unions carried out 'to the full'. Another 8.2% of firms carried out this support 'substantially'. Managers in 27.2% of firms considered trade union organization not to be necessary in the firm. Even more uncompromising is their relation to the practice of tripartite negotiations. This practice was not necessary according to 36.6% of managers.

A slightly different picture was revealed concerning the activity of managers regarding the maintenance of the identity of the personnel within the firm. However, this activity has also essentially decreased in comparison with the recent past and has apparently found a relevant and rather stable position. The parameters for 2000 and 2005 are practically identical.

However, the maintenance of the identification of the personnel obviously does not take the last place in the arsenal of the managers. The most popular way to achieve this is the traditional practice of spending week-ends together with personnel and special holidays for managers and employees. In 2000, 14.8% of firms had such recreational occasions 'to the full', whilst 17.2% of firms used this practice 'substantially'. One question in the questionnaire that is of special interest to the present research is to what extent the firm managers were able to solve the problem of increasing the individual reflexivity of workers in order to increase the understanding of each worker of his own role in the organization, that means his understanding of the possible strategies and ways for him to exist in the organization. Such reflection can become a favorable base for the most effective motivation of workers – it motivates by granting a worker a more favorable role in a firm (Sarno A. 1999, 179–190). In Russian management culture

this originates from the well-known requirement of the historic figure, commander A. Suvorov, that each soldier in the army has to know his own manoeuvre. In modern Russian management science this requirement is interpreted as expediency to raise the level of subjectivity of the personnel as a whole, and of each worker separately. The better the competence of workers, the better understanding they have of their role in the firm as a whole and the more effective is the activity of the firm as a whole.

In 2000 more than one in ten firms were active 'to the full' in raising the subjectivity level of the personnel and of each worker separately. 20.8% of firms were active in this direction 'substantially'. For workers' understanding of their role in the firm can be effective, it is also important that workers understand the roles and functions of the various divisions of the firm well enough. It is about the increase of the structural reflection of workers – increase of understanding by workers of the role of various divisions of the organization for the success of the firm as a whole. The Russian managers put into practice this approach less actively. In 2000 only 8.2% of firms were active 'to the full' in the application of the given principle and 14.6% applied it 'substantially'. It is typical that during the interviews the interviewers came across cases of active rejection of this practice by the managers. Rather a categorical opinion was expressed: to management it is inexpedient to give the information on the functioning of the various divisions of a firm to ordinary workers. It arouses excessive curiosity and distracts from the execution of immediate duties. However, statistically, these managers do not form too big a group. Only 12.1% of the firms can be placed in the category where managers believed that it was inexpedient to inform the personnel about the structural divisions of the firm and about the functional connections between them.

Regular gathering of innovational suggestions from the personnel is useful not only because of its direct purpose when any suggestion introduced yields profit for the firm. From the point of view of many managers this practice raises feelings of participation of the workers in a firm. As such 4.3% of firms apply such practice "to the full", 20.1% apply it "substantially". The most `prominently` deep crisis for the industrial enterprises is revealed given the activity of managers to improve the professional skills of the personnel. Unfortunately, the parameters of such activity appeared to be rather low for both 2000 and 2005.

There are no managers who do not know that the better the qualifications of the personnel, the better the efficiency of the firm. However, at a time of deep economic recession any effort to improve the professional skills of the personnel is perceived as an unacceptable luxury. Clearly, the attraction of the western managers is really expensive for Russian firms. In 2000 only 0.7% of firms carried this out it "to the full", and 4.0% did it "substantially". All the firms engaged in this activity were under foreign ownership. It is expensive action to send employees abroad for training. Only 3.3% of firms allowed themselves to do this "to the full". But, in addition, the Russian firms hardly use fairly inexpensive remote systems of training the employees. Only 4.2% of firms were using these systems "to the full", and 4.9% of firms were using them "substantially". Therefore, the most popular system of training in conditions of crisis appears to be the increase of competence of each worker (an exchange of experience)

directly during the daily life of the organization. More than every fifth firm (18 %) used this kind of training "to the full" and a quarter of firms (24%) applied it "substantially".

Technological management

It turns out that the data on the dynamics of technological management is rather unexpected. This is because at the beginning of the reforms the administrators of Russian industry declared their adherence to the purposes of scientific and technical revolution. One part of these declarations was supported by significant material investments in technological development of the basic industries.

When the economy was growing practically all managers in industrial firms declared their support for the introduction of new technologies, and for the introduction of product innovations. On the other hand during the crisis of the late 1990s only 9% of firms could report that they use this managerial strategy of investing in new technologies 'to the full'. Another 11% of firms said that they used it 'substantially'.

Accordingly, the purchase of patents, inventions, and know-how was practically an unattainable luxury for the majority of firms. Only one per cent of firms carried out this activity 'to the full' and 8% 'substantially'. The conviction held by 51% of managers that such activity is not necessary for their firm serves as an even more expressive attribute of the depression. Thus, they were not expecting to carry out this activity in the future. The data from 2005 shows some mitigation of the abovementioned depression. The activity of managers concerning the development of technology has reached 2.47. This intermediate position is in between 'applied minimally' and 'applied moderately'.

The under evaluated position of HRM again becomes obvious when considering various aspects of information management. Distance learning systems for employees serve as one of the integral aspects of the application of information technologies. Thus, this aspect gained the lowest rates. On the one hand, it started from the lowest level of all the information technologies – 1.39, and, on the other hand, in five years it achieved a minimal shift forward – only in 0.29 points.

On the whole it is meaningful that the development of information technologies is the most advanced direction in activity of the Russian managers. The parameter of this activity in 2005 reached 2.89. In other words, it is used moderately.

Regarding this strategic direction, Russian managers lose out to their European and American colleagues not as significantly compared to other types of management activities. There are two essential reasons for such a 'success'. The first reason is that in Russia in recent decades there has been overproduction of experts with higher mathematics education and with higher education in the field of programming. Though for the last decade the number of graduates in the higher education institutions with mathematical training has significantly decreased, there is still sufficient potential for program product development, for services of computer networks.

The second reason is the relatively low prices of both computer hardware and software, and low prices for maintenance services of maintaining computer networks in Russia. Current Russian business life includes, for example, low security of copyrights, which may have positive effects on business. Up to now Russian managers would

rather install non-licensed software on computers. For example, counterfeit versions of Microsoft´s Office programs are tens of times cheaper for Russian firms than for their European counterparts. For computer hardware cheap 'reversive' technologies are used. In addition, cheap labor, sufficient for assembling the 'reversive' computers, enables buying equipment many times cheaper than in countries where copyrights are protected. Thus, in 2000 one quarter of Russian industrial firms used intra-organizational computer networks to the full. And an additional 20% of firms used these networks 'substantially', 16% of firms did not use such networks, although basically, they are interested in them. And only 9% of the managers surveyed have pointed out that intra-organizational networks are not necessary for them. These firms are without exception small enterprises employing less than 100 employees.

The formation of opportunities for innovational development acts today as the key aspect, ensuring firms ability to survive. To what extent is it possible for a firm to acquire and to master innovative development can show to what extent this firm is adapted to the modern information society. In this direction, as it is seen from Table 5.7 of Appendix 3, the last economic crisis had the most rigid impact on the Russian firms. The generalized parameter of orientation in innovative development is one of the lowest in all directions of management activities. In 2000 it was 1.27; in 2005 slightly higher at 1.62. Below that is only the parameter showing the activity of HRM.

It is only natural for Russian firms to have such low parameters concerning their efforts towards innovative development. When firms are compelled to switch to a mode of survival in emergency conditions, there are neither material nor human resources for attempts 'to break through' in a mode of innovative development. The only direction in which firms, even in conditions of deep economic crisis, try to maintain their innovational activity is investing in research and development (R&D). This activity is traditionally very popular in Russian industry. In 2000 6% of firms were actively developing R&D 'to the full'. 12% of firms reported that they were 'substantially' active concerning R&D. This was typical only for large firms in mechanical engineering.

In this kind of situation it is typical that also the city administration is also virtually unable to support innovation projects, even in spite of the fact that it had created special structures for the coordination and support of venture innovation projects. Only 2% of St. Petersburg firms managed to use this system 'to the full'. The depth of the economic recession appeared to be so vast that in 2000 half of all managers considered that support from the regional government for the realization of innovational venture projects was not even necessary for their firms.

The cooperation of St. Petersburg industrial firms with techno-parks has been at a low level. In 2000 only 5% of firms carried out cooperation with techno-parks 'to the full', the same amount carried it out 'substantially'. Certainly, in many respects such poor cooperation is caused by the weakness of the techno-parks in St. Petersburg. But in spite of growth 28% of firms were still not going to cooperate with techno-parks even in the future, considering it unnecessary.

Public relations

The data on the nine directions of activity of management considered above permit as to qualify it as a depressive behavior. The level of management in firms appeared to be low; it is practically devoid of strategic components. This management functions at a level of simple reaction to momentary calls of the environment. The tendency for leaders of firms to try to survive 'alone' predominates. In such a situation and with such orientations it is basically impossible to ensure competitiveness of the industry on the international market. The necessity for adequate support of the institutional environment, either in the international form, or close to the local form close to the mobilization strategy of the post-war government of Japan is abundantly clear. In this connection we have paid special attention to the search for attributes of development of cooperation of institutional, administrative structures and business structures.

The attributes of such development are in the most rudimentary condition. The resulting data show a fairly low level of support rendered by the institutional environment of Saint Petersburg to industrial firms. The most natural service of the city – "the city order" is subscribed 'to the full' by only 5.7% of all firms. 3.3% of firms 'substantially' use this service of the city. These figures deserve additional attention, as this is one of the few systems to receive real and intensive development in St. Petersburg. In the committee for economic development, industrial politics and trade by the administration of St. Petersburg the special department of the city order is created. The government of the city issues a special bulletin "the City Order of St. Petersburg" circulation over 5-thousand. The special site in the Internet operates it is devoted to inquiries and offers of the "city order". Nevertheless, 32% of firms consider unnecessary for themselves to use system of the "city order".

This also concerns the opportunities to participate in programs organized by the administration of the city, to subscribe to services of the committee of economy and the industrial politics, nowadays called the committee of economic development, industrial policy and trade.

It is evident that the alienation of business and administrative authority is so great that managers of firms are not inclined to interact with administrative structures even in those spheres where these structures have been created for their benefit.

It is shown especially in those spheres where the administration of the city requests the help of the business organizations for the decision of its specific tasks. Activity concerns tasks in the development of plans for the development of region. Thus, for example, only 1.5% of all firms delegated their experts to firm the groups on development of the Strategic plan of St. Petersburg 'to the full'. A further 6% of firms did it 'substantially'. 31.8% of firms have considered unnecessary for themselves to respond on requests of regional administration to allocate the experts for participation in a development of such plan.

Managers do not have the impression that the external institutional environment is capable to help the firms when there is a situation of sharp general deficiency of material resources. Certainly, in a more favorable economic situation the firms are interested to delegate the experts for development of the strategic plan of the city. In

fact this participation can be used according to the interests of a firm so that they can be taken into account in the plans of the administration of the city, in the plans for the work of various committees. It would even be possible to expect that firms are inclined to compete with each other for the right to be included as experts in working group on the development of such a plan. However, in 2000 in St. Petersburg such competition did not occur. Moreover, there was an intention to remain apart from the initiatives of the administration.

At the same time, regarding infrastructural support and about support of administrative structures then material resources do not serve as a unique resource which can appear in deficiency. Trust and readiness to cooperate may appear to be an even more important and limited resource. We note that during 2000 this resource appeared critically scarce in re-structuring and beginning the development of Russian industry.

Thus, the empirical material has shown that such a specific 'informal teacher' of managers as the practices of management developed in the St. Petersburg Region has trained managers in tactics of passive adaptation to the market environment developed in the region, and in Russia as a whole. In this sense the majority of managers 'are trained' to wait for protectionist actions by the federal and regional governments concerning existing firms for protection of the domestic manufacturer against possible western competitors. It is abundantly clear that regarding such weak management, the majority of the Russian firms will fail as soon as western competitors gain access to the Russian markets.

The clearly developed 'habitus' of managers in the region and the majority of firms 'has trained' managers to avoid producing a strategy of development of both firms and regional industry as a whole, thus limiting the interests of managers to short-sighted tactics, survival tasks in the immediate prospects. Therefore, such a strategic resource as the personnel, improvement of its qualification potential was considered by managers during the period from 2000 to 2005 as not deserving major attention and effort for its development.

Our data on Russian managers in 2000–2005 shows the great technological gap between their firms compared with their foreign competitors, and that they focused their managerial market strategy only on immediate prospects. Russian managers have realized that the advent of western competitors on the Russian markets will inevitably result in the bankruptcy of their own firms. In such conditions it is difficult to expect the Russian managers to make investments in new technologies, in research and development and in the development of the personnel. Such a choice of 'passive – defensive' from all possible market strategies gives us good reason to call this period the beginning of a new stagnation in Russian industry.

But the most important 'lesson' learned by a manager, is a lesson of mistrust of the institutional environment of firms. Steadily reproduced during 2000–2005, managerial practice expresses itself as the aspiration of firms to be separated strongly from the state structures of both federal and regional level.

6.
Preconditions for the further development of informal and formal training

6.1. Basic tendencies in the economic development of the region, innovative sphere

The SWOT analysis carried out for St. Petersburg according to criteria relevant within the framework of global competition (The Global Competitiveness Report 2004, 57), served to emphasize points of basic directions of its development as "formation of the multipurpose city integrated into Russian and global economy providing high quality... of manufactures; strengthening of St. Petersburg as main Russian contact center in the Baltic sea region and Northwest Russia" (Strategicheskij plan Sankt-Peterburga 1998, 34). Processes in its economy corresponding to the strategic plan cited above are most essential for understanding of how the chances increase or decrease regarding either the economy of the region or the managers researched and firms where they operate. We shall consider some of them.

The first of the four strategic directions of development of the region has achieved certain successes. The state control and regulation of activity of subjects of natural monopolies is being normalized. The prices and tariffs for services rendered by monopoly enterprises are becoming more adequate and better, than at the beginning and in the middle of the 1990s. Barriers to the development of business have really been reduced, the number activities subject to licensing has been reduced, and the order of the state registration of the enterprises has been simplified. The licensing authority implements a principle of so-called "single window". The automated system of formation of the St. Petersburg city order and the automated system of the city purchases of the goods and services was established in the city. Due to this system, 65,364 state contracts registered in 2003 as a result of tenders.

In the region it was possible to really implement the 'reduction of tax burden'. Tax rates regarding the sums coming into the city budget are much below the majority of subjects of the Russian Federation. These tax rates and tax collections have been established for some years to come and are not subject to change. It certainly helps businessmen to make long-term plans for the future. St. Petersburg is the leader among other subjects of the Russian Federation on the level of the development of legislation on real estate. The real estate market already generated by the middle of the 1990s is developing, allowing speeding up of capital mobility from one branch into others. As a result, a gradual moving of the industrial enterprises from the city centre, important for

the region, has been started. These changes have resulted in the favorable tendencies reflected in Table 6.1.

Table 6.1
Achievements of the St. Petersburg region in the creation of a favorable economic climate

Parameters	1997	1998	1999	2000	2001	2002	2003
1. GRP[1], billion rubles (1997 – trillion rubles)	75.7	92.0	150.7	205.1	275.0	367.8	426.88
2. Share of services of GRP, %	65.0	60.6	57.5	58.1	55.7	56.4	59.4
3. Number of registered enterprises, by the year's end, thousands[2]	148.3	166.5	189.5	218.7	247.4	282.5	309.4
4. Number of small enterprises operational, thousands[3]	101.4	111.8	108.7	109.2	78.6	89.7	89.9
5. Index of physical volume of industrial production	106.5	98.5	106.3	126.8	100.8	131.4	105.8
6. Investments in fixed capital, billion rubles (1997 – trillion rubles)	11.3	13.4	32.7	35.9	53.2	76.0	91.5

[1] Gross Regional Product
[2] Due to the EGRPO regulation (Goskomsatt Rossii 08.10.92 №168), monitoring began in 1993.
[3] The monitoring of the SME's activities began in 1995.

One of the major points of the named first strategic direction of the development of the region is the development of a labor market. For this purpose at federal and regional levels the effective legislative base regulating labor relations has been worked out. Activities for the improvement of professional skills and re-training of workers have been initiated. Consequently, starting from 2000–2003 the real increase in a labor demand is marked, the number of those employed is increasing. The dynamics of labour in different branches of the economy is presented in table № 6.2 (Promyshlennost' Sankt-Peterburga i Leningrdskoi oblasti 2005) of Appendix 3.

By the end of 2003 the level of registered unemployment was only 0.8% of the working population. The level of the general unemployment in St. Petersburg was 4.3% of the working population. In the region the level of general unemployment is half that of the Russian Federation as a whole, where it is 8.3%[1]. Some data on unemployment is presented in Table 6.3 (Promyshlennost' Sankt-Peterburga i Leningrdskoi oblasti 2005) of Appendix 3.

Nevertheless, analysts point out that in the region supply and demand for labor is still not in balance; the lack of personnel persists. Inadequate adaptation of the education system to the requirements of the labor market is a vital issue. This system is not yet capable of taking into account of the features and dynamics of occupational structure of workers, including experts-managers. Step by step there is a 'reorientation of financial resources to investing the real sector of the economy'. In February, 2004 the international agency Standard & Poor reconsidered their forecast of change in the rating of St. Petersburg from 'stable' to 'positive'. The long-term credit rating of the city has simultaneously been confirmed as being stable. In 2004 the agreement

1 www.gov.spb.ru/day/statistika/stat/itigy_2004

on granting of the credit to St. Petersburg between the Government of the Russian Federation and the World Bank was signed. The dynamics of capital investments is presented in Table 6.4 (Promyshlennost' Sankt-Peterburga i Leningrdskoi oblasti 2005) of Appendix 3.

'Integration into global economy' is the most important trend in regional development. St. Petersburg achieved high rates of growth in the turnover of goods in the East Baltic Region by acquiring significant international freight traffic, previously provided in Scandinavia and the Baltic countries. International Transport Corridor 9 (Strategicheskij plan Sankt-Peterburga 1998) passing through the city, representing a combination of six types of transport, is transformed into the North – South corridor crossing border of Finland and going down to the Persian Gulf. St. Petersburg carries out about 65% of import and 62% of export transportations of the Russian Federation. Parameters of the turnover of goods of the major port of St. Petersburg are also growing fast: 32.1 million tons in 2000, 36.9 million tons in 2001, 41.3 million tons in 2002 and 42 million tons in 2003.

Gradually the competitiveness of the industrial productions of the region is improving. For the last five years in St. Petersburg it was possible to not only overcome the downward trend in production of 1991–1996, but also to achieve growth of output. Volumes of industrial production in the comparable prices increased 1.8 times from 1999 to 2003. The hi-tech production by the enterprises in the defense industry, shipbuilding and power mechanical engineering began to develop. In 2003 in St. Petersburg the volume of industrial production reached 270.4 billion rubles; the index of industrial production was 105.8% compared to the corresponding period in 2002. In 2003 production per employee in St. Petersburg industry increased in 35.2% reaching 26.5 thousand dollars compared to the corresponding period of the previous year. Industry continues to remain an important branch of the economy yielding 30% of revenues in the city tax system and providing employment for 22% of the working population. Some data illustrating the tendencies, are presented in Table 6.5 (Promyshlennost' Sankt-Peterburga i Leningrdskoi oblasti 2005).

Table 6.5
Integration trends of St. Petersburg into the global economy

Parameters	1997	1998	1999	2000	2001	2002	2003
1. Volume of foreign investments (million dollars)	234.0	413.3	698.5	1159.9	1171.3	881	695.8
2. Number of foreign and joint enterprises with foreign participation (the end of year), thousand	9.3	10.6	9.4	9.6	10.8	12.1	13.1
3. Number of those employed in the foreign enterprises (thousand persons)	54.7	73.7	124.9	169.5	145.9	182.0	182.1
4. Delivery of products for export by the enterprises of St. Petersburg, (million dollars)	1758	1619	2102	2527	1911	1739	2747
5. Import of goods to enterprises of St. Petersburg (million dollars)	3997	3546	2329	2487	3961	4878	5795

Due to the joint efforts of business circles and the governments of the region the internal and external markets of the industrial enterprises were regularly extended 1997–2001. For the promotion of goods made in St. Petersburg onto the markets of other regions the program Uniform Regional Distributor Network 'Made in St Petersburg' was realized. For the development of regional cooperation communications the St. Petersburg Subcontracting Center was created, which is conducting work on the formation of a database about the technological opportunities of the industrial enterprises of the city. Integration of industrial production is ongoing.

The need for retraining the managers of the industrial enterprises was urgent. Some authoritative educational institutions of the region were enlisted to accomplish this task. They train managers according to programs relevant to international standards. In St. Petersburg the regional commission engaged in the selection of applicants for training at enterprises abroad within the framework of the Presidential Program on Training Managers for the Enterprises of the National Economy of the Russian Federation for the training of the administrative staff of the Russian enterprises was created.

In this connection it is important that St. Petersburg should continue a scientific – educational center of Russia being second after Moscow. The process of the stagnation of basic and applied science has ended. The number of HEIs began to grow, innovation centers are being created. In 2003–2004 in St. Petersburg there were 48 state HEIs in which 352.8 thousand students were trained, including 205.1 thousand students on daytime form. In 2002–2003 there were 47 HEIs, 318.9 thousand students and 190.2 thousand students. In the academic year 2003–2004 there were 42 non-state HEIs and five branches having the state license in which 69 thousand students were trained.

As of January 1, 2004 in the Uniform State Register of the Enterprises and Organizations in 'science and scientific service' 11.5 thousand organizations were registered, 2.1% more than for the same date in 2003. The volume of services in the field of scientific research and development rendered by large and average scientific organizations engaged in entrepreneurial activity amounted to 21.5 billion rubles in 2003. According to the Summary Financial Balance of the City, expenditure on basic research and scientific-technical progress increased. In 2002 they totalled 1,568 million rubles, 1,838 million rubles in 2003.

'Integration into the global information space' is the most successfully implemented task of the Strategic Plan. Due to the joint efforts of government organs, public organizations and private business, St. Petersburg is successfully integrated into the international information network. The degree of openness in the work of the authorities increased; the information portal of the city administration was created and operates in the Internet network. The level of computer literacy of the population is rising. The volume of services in communication in 2003 increased compared to the level of the previous year by 26.5%. The amount of user's radio stations of cellular communication in St. Petersburg and the Leningrad region increased 1.7 times totalling 3.6 million units in 2003. At the end of June 2004 the amount of user's radio stations of cellular communication increased by 21% totalling 4.3 million units from the beginning of the year.

By 2005 the overwhelming majority of schools, HEIs, and other educational establishments were equipped with the necessary minimum electronic, computer and office equipment; practically each HEI trains experts in the management of information resources and ICT (information-computer technologies). Today the employees government agencies in St. Petersburg are required to take training and retraining in the use of new ICTs in the field of state and administrative managerial control. The current regional scientific-technical program 'Information Environment of Continuing Education of Northwest Russia' includes as a component the program 'New Information Technologies of Continuing Education in St. Petersburg'; The majority of educational establishments in the region have Internet access, resources in various subject domains; the construction of the city *infoteka*[2] has begun; the scientific and technical program on development and introduction of educational multimedia programs has been developed. The number of regular users of the global network exceeds 200,000 persons. As a whole the Internet services are used by more than 800,000 townspeople. For 1.6 million inhabitants of the region the PC became an integral tool of work and normal life.

It would be possible also to report positive shifts in such strategic directions of development of the region as 'improvement of the city environment' and 'formation of a favorable social climate', but they are less relevant to the problem of training managers.

Regarding innovation, such components as the dynamics of basic and applied science, and also the development of those segments of industry capable of ordering and assimilating innovations, patents, the know-how developed by science are most important. The role of the St. Petersburg Region becomes clearer in context of the situation throughout Russia. The dynamics of financing of Russian science during the period 1990–2002 was decidedly negative. This is because in 2003, when some upturn began in Russia, expenditure on research and development (R&D) amounted to 169.9 billion rubles, which was 44% in real terms compared to the level of 1990. The share of R&D expenditures in gross national product (GNP) in 2003 was 1.28%. In 1990 was 2.03% of GNP. Even if in 1990 of the given parameter Russia was at a level comparable to the developed countries of the OECD, now it is closer to the group of countries with low scientific potential, such as Spain, Poland, Hungary, and New Zealand. Now the expenditures per person occupied on research and development, taking into account the university faculties, is 8 times less in Russia than in South Korea and it is 12 times less than in Germany.

Unfortunately, the basic source of finance for science has been the state budget. In 2003 the share of budgetary financing for science as a whole was 58.4%, slightly higher than the figure for 1998 when it was 52.2%. The number of personnel in R&D decreased by 55.8 %. In 1990 it was 1943.4 thousand persons, and in 2003 it was 858.5 thousand persons. In 1990–2003 there was a reduction in direct participants in the scientific process, in researchers by 58.7%, technicians by 69.5%; number of support personnel diminished by 55.3%. A sharp fall in prestige of the profession of a scientist was noted. In Russia, according to the VCIOM Survey of 1999, the scientist

2 T data base of information resources

as profession is prestigious in the estimation of only 1% of inhabitants of the country. The intensity of the 'brain drain' from Russia has not diminished. According to expert estimates, from 1989 to 2002 more than 20,000 scientists went abroad and about 30,000 work abroad on fixed term contracts.

The appreciable reduction concerns the material-technical base of science. Since 1995 the volume of operating value of R&D in real terms was cut by half, and if compared to 1990 almost in two times. The total cost of the operating value the share of machines and equipment was reduced. Thus in the 1990s it fell from approximately 60% to 30%. The share of the equipment 'older than 11 years' even in 2002 was almost 27%. In the last decade there was a break in both interdisciplinary connections and the cycle 'basic research – applied research – industrial production'. Orders for Russian science were sharply reduced by industry, there was a weakening of connections between education and system of the scientific organizations, between applied R&D and S&T, between design developments and manufacture. There was a disintegration of branch sector of the applied science based on system of leading branch scientific research institutes. There was a major reduction in R&D activities at industrial enterprises.

These processes are also characteristic of the St. Petersburg region. At the same time, its potential is still significant. Researchers point out that the innovative potential of St. Petersburg consists of a whole complex of elements. Its basis consists of 326 large and middle-sized scientific organizations, including 49 scientific organizations of the Russian Academy of Sciences, and also 12 state scientific centers. In the applied sector of science there are more than 3,000 small innovative enterprises in science and scientific services. The system of higher and secondary education, where there are 78 HEIs, 17 establishments for secondary vocational education, 14 educational institutions of initial vocational training is traditionally strong in the region (Secondary vocational, higher education vocational establishments of St. Petersburg in 2002/2003, St. Petersburg, 2003).

The innovation potential of the region also includes the serious industrial base listing 230 large and middle-sized companies, and also more than two thousand small enterprises in hi-tech branches. Such branches here include instrument making (including aviation, electronics, the radio industry), the computer facilities industry, the chemical-pharmaceutical industry, medical technology industry; machine-tool construction and the instruments industry, power mechanical engineering, the electro-technical industry and a number of others.

Research and development in 2004 was carried out in 397 organizations, 82% of them research and design organizations making 326 organizations, 9% in HEIs making 35 organizations, 6% in the industrial enterprises making 23 organizations, 1.7% in design organizations, and 1.3% in other organizations. The total share of hi-tech branches of industrial production of St. Petersburg was 33% in 2004. The share of hi-tech branches in an aggregate number of occupied in St. Petersburg industry in 2004 in large and middle-sized organizations amounted to 46%.

6.2. Economic and organizational development of industrial firms in the region

6.2.1. Cooperation of firms in the implementation of basic business activities

In our survey of 2001, eight directions (functions) of business activities typical for industrial firms were compared: production, assembly, marketing, strategic planning, R&D, sales, selection of objects for merchandising and purchases. It was important to ascertain to what extent these functions are run by firms mainly independently, and what functions provide incentives for firms to cooperate with other firms.

Let us consider these functions in decreasing order of readiness for cooperation with partners in the implementation of functions. The following detail is relevant for this purpose. The share of firms involved in cooperation with partners in particular functions is empirically identified by the sum of the share of those reporting that their partners execute the given function 'to the full' (5 on a scale 1–5), 'substantially' (4 on a scale 1–5) and, at last, 'to a small extent' (3 on a scale 1–5). These three positions indicate a fairly noticeable contribution of partners in the fulfillment of a particular function.

The main factor breaking autism of Russian firms, their aim to be absolutely independent, is the strongest necessity, i.e. the necessity to sell the commodities and services produced. Accordingly, for the industrial firms of St. Petersburg the greatest cooperation is characteristic of the 'most constraining' function – 'sales'. Almost 2 from 5 firms, 39.5%, use the help of their partners, even partially freeing themselves from the activity, specialization in which is not effective for them, see Table 6.6 in Appendix 3. However, it is apparent that 56.6% of the producer firms nevertheless willingly burden themselves with a function which the western firms prefer first of all to delegate.

This empirical fact becomes more impressive given that the number of firms, 'burdening themselves' by apparently unusual for them, 'being a subject to disposal' function is only for 12.2 % less than the number of firms executing the most essential function – production. 68.8% of firms produce goods. This function is the most essential and the most popular one. Thus, it is rather strange to see that sales are of the same popularity as the production function.

The commenting mentioned above on the proportions of distribution of produced goods among different customers is presented in Table 6.7 of Appendix 3. According to this data, 56.4% of the total production of the firm, is distributed or sold independently, avoiding commercial agents. Only 23.8% of industrial production is distributed through wholesale firms, and 19.8 % of production is distributed through retailers.

The second factor by forcibly constraining Russian firms from their desired closure, is the necessity to select what is sold and bought, very much connected to the above mentioned necessity of 'sales'. As shown in Table 6.8 of Appendix 3, one third of firms, 34.2%, cooperate with partners implementing such selection. As a whole, this activity is a peculiar essential entity of the internal habitability of Russian firms.

Even cooperating with partners, the firm aims to reserve its initiative in solving such problems: 66.4% of all firms 'completely execute' the function.

Production is the most essential function of industrial firms. Almost 70% have such a function with a maximum degree of intensity – 'completely'. At the same time, almost a third of them, 31.9%, cooperate with partners in the implementation of this function.

In order to describe the degree of development of partnership networks, cooperation in an industry of the region, a parameter of cooperation of firms in the implementation of production is the most obvious. Unfortunately, this parameter, reveals extreme non-development of such partnership networks. More than 60 % of industrial firms aim at autarchy, avoid dependency on other firms characteristic of a developed partnership. This indicates the primitivization of industrial production in the region in recent years. This primitivization occurred due to the dominance of 'screwdriver assembly' in the industry of the city and to the fragmentation of this production. In some segments of the economy of the city it is even possible to speak of a degradation of production down to handicraft level.

The fourth factor forcibly constraining firms of the region from entering into partnership relations is the necessity for 'strategic planning'. From all industrial firms in the city 28.7% execute strategic planning together with their partners.

In modern Russian industrial firms have practically no choice whether to attract partners or not. Strategic planning is carried out in parent firms. In a way, the share of firms, 'accepting partnership' in strategic planning, is practically, the same as the number of affiliated firms in the sample. In this case it makes 19.8%. The 18.6% of firms, where 'to the full' (point 5 on a scale 1–5) or 'substantially' (point 4 on a scale 1–5) where strategic planning is executed by the firm – partner, instead of the inspected firm, causes no surprise.

The expressiveness of this parameter is different in meaning. It demonstrates that Russian industrial firms have not fully acquired strategic planning so relevant in market conditions. At its best, only the development of 55.1% firms 'is protected' by such a strategic plan, when it is possible to say that it is done 'to the full'. 48.1% of firms had independently elaborated such plans, and 7.0% had received such plans from either their parent firm, or other partners.

The fifth factor in overcoming the self-imposed isolation of Russian firms – the function of the implementation of marketing is notably more heuristic. Understanding the necessity and inevitability of marketing better, 27.2% of industrial firms of St. Petersburg now rely on partners. It is clear that only 65.9% of firms are protected by their own, and 17.1% by 'partner' market research. Accordingly, 17% of firms experience an acute deficit in marketing. Only 37.2% of firms can consider themselves to be protected by their own researches, and 9.3% by partner's researches. Thus, a lack of valuable marketing is characteristic of 53,5% of industrial firms.

As Table 6.9 of Appendix 3 shows, non-implementation of R&D is even more acute. On a scale 1–5, 32% of firms execute this function completely independently, and 15.6% ' are close to complete execution' 4 on a scale 1–5. Partners are involved in the function for firms in 7.0% of cases at a level of 'to the full, and on 4.7% of cases –

at a level of 'substantially'. Thus the main lack of this function using soft criteria, is experienced by 40.7% of firms. Given that in modern market conditions all industrial firms should be protected by effective R&D, it must be conceded a significant lack is experienced by 61% of firms. Regarding such a sizeable lack, only 22.6% of the industrial firms in St. Petersburg create partnership networks with other firms and organizations in realization of R&D.

The data on the implementation by St. Petersburg firms of such a production function as assembly is expressive enough. It would seem that this function boosts the openness of firms towards the construction of partnership networks. For active production firms aiming at delegating of assembly to any clusters of partners is characteristic. However, among St. Petersburg firms only 21.1% appeared to be involved in 'assembly partnerships'. Thus among 52.7% of firms, 'to the full' executing assembly are those which implement the assembly 'conveyer' from western deliveries of components'. Such firms execute assembly, naturally, not cooperating with other firms.

Education and training of staff is a function carried out to a minimum degree of industrial firms. Only 29.5% of firms train staff for themselves 'completely', 11.6% – 'substantially', which is no surprise. Surprise arises when we compare this to data on what quantities of firms other firms train the staff. It becomes clear that demand for personnel training by other firms was reported by only 17.9% of firms. Thus, 51.9% (41.1+7.0) of industrial firms of the city strong need in training of staff. If we use more strong criteria of needs based on understanding: all firms have to either by their own facilities, or by facilitites of partners provide personnel training at a level – 'to the full, the need is relevant in two firms out of three.

It is possible to explain this issue due to the fact that in the industry of St. Petersburg no mature functional differentiation has been reached allowing firms to achieve high specialization, to be focused on what they are capable of accomplishing most affectivity. It seems that firms, as in the former planned economy, even if they delegate some functions to partners still aim, to some extent, to replicate the activity of partners. They try to reserve the possibility to manage the implementation of these functions by themselves, to be independent. This tendency finds endorsement in the data of our survey on firms participating in the Presidential Program. The questionnaire included an open question on the directions of activity of the firm. Respondents were requested to write down the directions of activity. It appeared that about 60% of firms describing the executed functions enumerated four, five, sometimes up to six functions. The authors of the questionnaires in the Moscow organization added a request in a new version of this question on a branch appropriate to the firm: among the most relevant kinds of activity 'to mention no more than three branches in decreasing order of significance'.

It turns out that such a tendency of degradation/stagnation of Russian firms down to autarchy, to poly-functionality is being step-by-step overcome. If in future specialization saturation should occur, the complimentarily of partners will appear more clearly. There would be no necessity 'for some occasion' to have the skills to

independently manage full set of functions necessary for the survival and development of the firm.

The more developed networks of cooperation, support of industrial firms, the more goods produced sold on external markets, the more raw material or components are bought on external markets. Such parameters of the development of connections of cooperation of firms of St. Petersburg testify to a rather unfavorable phase of development.

It is obvious that almost half of all turnover is on the domestic market of St. Petersburg and the Leningrad Region, see Table 6.10 of Appendix 3. The sales volume of industrial firms in St. Petersburg and area on 2.5% exceeds the volume of purchases. The second place in the turnover of industrial firms of city is taken by the market of the Russian Federation. The turnover of Russian market makes up 41.1% of turnover of the domestic market of St. Petersburg and the Leningrad Region. Sales volume of industrial firms in the Russian Federation at 3.4% exceeds volume of purchases. Accordingly, the third place is taken by the turnover of the market of the Northwest, accounting 26.3% of the turnover of the domestic market of St. Petersburg. The volume of purchases by firms in St. Petersburg exceeds the sales volume of their commodity at 2.2%. Thus, the Northwest to some extent serves as a raw materials market for the industry of St. Petersburg.

The European market serves a different function. It takes 4th place for volume of turnover of firms of the city. This volume makes up 19.1% from turnover on the domestic market of St. Petersburg. In the markets of Scandinavia and Europe firms of St. Petersburg buy spare parts and execute the assembly of the commodity in the region. More often it concerns pare parts of computer equipment, radio engineering, electric-devices. The market of the CIS takes a modest place in the turnover of the industry of St. Petersburg. The volume of this market makes up only 10.8%. The excess of sales by St. Petersburg firms of the above purchases, makes 2.4%. The market for distant foreign countries (excluding Europe) is close on volumetric parameters. General trade turnover here makes up 10.6% of the domestic market of St. Petersburg. The excess of sales purchases is 1%.

The share of commodity per most relevant customer is a significant parameter of the development of partnership networks. The smaller the share, accordingly, the greater the quantity of trade partners, customers of goods produced.

For firms of St. Petersburg low development of diversification of customers is rather characteristic. 7.6% of firms have, practically, a single customer for their commodity.

To estimate the structure of priorities St. Petersburg firms which determine their behavior on the market, a (special) question was posed to the managers “If your firm has advantages over your main competitors, rate these advantages relevant to the degree of their significance for your firm”. Table 6.11 presents the responses.

Table 6.11
Estimation of priority of significant advantages in competition criteria (%)

Advantages	0 – no advantage	1	3	3	4	5 – very sizeable advantage	Mean rank
1	2	3	4	5	6	7	8
1. Quality	5.5	4.9	3.3	13.7	23.1	49.5	3.84
2. Technical standards	17.2	3.9	6.1	15.0	23.3	34.4	3.16
3. Lower prices	10.5	10.5	12.7	23.2	15.5	27.6	2.97
4. Time of delivery	18.2	8.8	9.9	21.5	19.3	22.1	2.74
5. Innovativeness	25.0	10.6	12.8	12.8	15.0	23.9	2.46
6. Product design/ user friendliness	28.8	12.4	7.9	12.4	13.0	25.4	2.33
7. After-sales service	39.2	8.3	10.5	10.5	11.0	20.4	2.02
8. Environmental friendliness	31.5	18.0	11.2	12.9	10.7	15.7	1.92
9. Resource-saving technologies	31.5	16.9	16.9	9.6	15.2	10.1	1.82
10. 'Key items' products	41.3	11.2	8.4	11.7	12.3	15.1	1.81

Data of columns 2–7 is in %; data of column 8 – mean rank.

In order to correctly interpret the data in Table 6.11, it is necessary to consider two following circumstances:

1. The formulation of this question supposes fluctuations of estimations in a range from 0= 'important advantage' up to an estimation 5 = 'very important advantage'. As our additional questions have shown, the respondents considered a value of 3 to indicate 'not better, and not worse than others'. In the total, such picture has been received: 0 = our firm is worse than the majority of others, 3 = our firm is in the mean position among other competitors, 5 = our firm is better than the majority of the competitors.
2. The majority of the respondents had experienced the major crisis of 1998, which bankrupted most of local industry, and became a specific 'point of reference' for their estimations.

Managers were inclined to believe that the most relevant factor for the survival of their industrial firms in the market is their quality. If it were lower, the firm could not survive. Thus, the mean rank of 'quality' at 3.84, estimated by them as a significant 'competitive advantage'. It means: 'my firm has survived, mainly, because it has been more successful in maintaining quality of production than those competitors whose declining quality caused them to go bankrupt. Close to the competitive advantage of 'quality' was 'following the technical standards'. It is not surprising that the average ranking of the importance of this advantage was high, as 'quality' at 3.16. A result of a wave of bankruptcies the confidence was that probably only those firms are capable to survive, which in a situation of a steady general rise in prices, can provide the lower price level comparing with the competitors. Such experience of survival forces and further to appreciate the firm's ability led, probably, to lower relative prices for the production. It also emerged in fact that 'price' was considered by the majority

of St. Petersburg firms as the significant competitive advantage, mean rank of such estimation at 2.97.

In a situation of modern and still rather poorly organized manufacture ‘time of delivery‘ is significant for firms on average level. At that time, practically, any firm in the city could be proud of the fact that it differed from others by accuracy of time of delivery. On the one hand, such accuracy as business quality was not yet much appreciated, and, on the other hand, infringement of terms of delivery was not too strongly condemned. In Russia there was as yet no culture of punctuality in observance of terms. If the head estimates such competitive advantage as ‘time of delivery‘ at a level 3.0 it means: ‘ my firm provides punctual delivery on ‘average level’ compared to competitors. The real estimation empirically fixed in the research of ‘time of delivery’ was 2.74. This means that the majority of respondents estimated the given competitive advantage on ‘average level’ among other competitors.

The presence of ‘innovativeness’ as a competitive advantage was estimated by the majority of leaders as slightly ‘below a waterline’ at 2.46. which is to say: ‘my firm has survived more likely due to quality, standards, low prices, than due to innovative technologies. The level of innovativeness of the technologies here does not matter, it is not higher than the majority, and may even be lower.

The values of other ‘advantages’ are even lower: product design/ user friendliness of a product was 2.33, after-sales service, repair was 2.02, environmental friendliness of manufacture was 1.92, resource-serving technologies was 1.82, ‘key items’ products was 1.81. The Russian firms today survive not due to the five properties named by last. The ecological compatibility of a product, or manufacture have not enough value for survival, and the fact that production has ‘a humanistic meaning’ of first necessity goods to people, does not add any ‘buoyancy’ to the firm.

The data in Table 6.12 of Appendix 3, are similar demonstrating on what factors the firm places special emphasis to increase its competitive advantage.

Only three parameters have appeared ‘above the water-line‘ (above neutral estimation = 3): Skills/knowledge of labor force = 3.66, high level of organization of production = 3.30, marketing = 3.18. Skills/knowledge of labor force in firms regarding educational level was really quite high. The above data proves this. Managers gave high evaluation to the skills/knowledge of their labor force, since they were aware that the level of salaries of similar employees was higher in western companies. The estimations ‘above the average’ on ‘Organization of production’ and ‘marketing’ as factors ensuring competitive strength of the firm in present market conditions are quite natural. On average there was such a factor as possession of patents and licenses = 2.82. According to the majority of the respondents, the share of firms taking out patents is small even if they have special developments for this purpose. The design of the patent and the subsequent maintenance of the patent entail considerable financial costs, which were lacking in modern Russian firms. For this reason, few firms counted on possession of patents. Since the managers of firms knew about such practices, they fully appreciated the significance ‘of the patent factor‘ competitive advantage of the firm as a mean in matching with the majority of others which do not pay attention to the patents at all.

An estimation of such a competitive factor as the level of the development of R&D was less than the mean at 2.46. Today firms do not have the necessary means to conduct R&D. Low estimations were typical for such factors as increase of competitive advantage as: cooperation with firms in Russia at 1.71, cooperation with firms of the North-west at 1.58, cooperation with the Leningrad Region firms at 1.58, support of other organizations at 1.14. Thus the significance of networks of cooperation with other firms, with maintaining organizations was completely outside the awareness of the Russian managers functioning at that time. The majority of our respondents were not inclined to search for the support of other organizations to increase their competitive advantage.

To assess the market it is not enough to know only those advantages named by the managers. It is important to know what is lacking in the activity of their firms, considered important by the managers. For this purpose the question was asked: 'How important are the difficulties for your firm?' The difficulties are listed in Table 6.13. The data on the responses is listed in Table 6.13.

Table 6.13
Estimation of major difficulties caused by economic and technological environment (%)

Challenges	0 – Insignificant	1	2	3	4	5 – Very significant	Mean rank
1	2	3	4	5	6	7	8
1. Cost pressure	10.3	9.8	17.4	22.8	20.7	19.0	2.89
2. Cost of product development	19.0	13.0	19.6	16.3	18.5	13.6	2.42
3. Requirements to improve product quality	20.7	15.2	15.2	20.1	15.2	13.6	2.34
4. New competitors	18.7	15.9	18.1	17.6	16.5	13.2	2.33
5. Speed of technological change	23.9	17.9	19.0	16.3	14.1	8.7	2.04
6. Personnel costs	19.6	20.1	26.1	19.6	4.9	9.8	1.98
7. Requirements to increase flexibility	35.5	16.4	19.1	15.8	6.0	7.1	1.60

Data of columns 2–7 is in %; data of column 8 – mean rank.

The data showed that the modern level of development of industry in St. Petersburg did not reflect good market development. The obvious priority 'price competition' in the estimation of difficulties shows that the main policy of firms in St. Petersburg was a policy of survival, instead of a policy of technological development. The chances for actualization of orientations in the innovation policy of the development of firms were obviously small in the immediate future.

The conclusions of the previous section are proved by the data in Table 6.14 of Appendix 3.

The economic crisis in Russia has even further stressed the priority of price competition among industrial firms. 'Increase of prices for goods produced was an absolute leader among other ways of reacting to the crisis, the mean rank of the preferability of this policy was 2.78. A policy 'Speeding up product development'

(mean rank – 2.26) in second place may create illusion of interest of firms in activating innovation processes. Actually, in this case the crisis forced many firms to reject earlier rather high tech commodity, since the solvent customers – customers for the given commodity have 'vanished'. The firms had to switch to rather more simple, rather cheaper commodities, the demand for which has survived even in conditions of major crisis. Only 21.1% of firms (11.7% + 9.4%) were really interested in R&D development. But even these firms were little interested in cooperation with other firms in R&D sphere. Thus, there was practically a complete lack of orientation to the creation of innovation networks. Only 7.9% of firms (4.5% + 3.4%) were inclined to cooperate with other firms in R&D realization.

6.2.2. Change in the innovational activity of firms

The results of the survey showed that 24.4% of St. Petersburg firms for the three years 1997–2000 engaged in no product innovation, 75.6% carried out such product innovation. For industrial firms it is more difficult to carry out technological innovations. Only 52.3% of the enterprises surveyed 1997–2000 introduced new technology, 47.7% could not do so. 21.1% of firms could carry out neither product, nor technological innovation, 49.2% introduced product or / and a technological innovation only on firm scale, and only 29.7% of the companies surveyed achieved an innovation being an innovation for the market. None of the companies surveyed introduced an innovation to the international market.

The results of our research reveal that the recession of innovation activity in the industry of St. Petersburg 1999–2000 was stopped and, probably, in this area a slow rise is imminent.

Apparently about a half of firms have not changed their investments in R&D, see Table 6.15 of Appendix 3. At the same time, the share of firms which have increased the costs on R&D was considerably bigger than the share of firms that reduced these costs. If we consider the number of professionally employed workers in R&D in 1991 as 100 %, in 1994 this number was reduced to 83.2 %, in 1997 the number reached its lowest – 72.6%. In comparison with 1997, by 2000 the growth in the number of workers professionally employed in R&D was observed at 1.6%. In 1997 among firms executing R&D with their own resources, 'densities' of workers in professional R&D activities accounted for 6.5% of an aggregate number of workers. In 2000 in firms executing R&D with their own resources, the densities of occupied R&D has amounted to 6.9%. Attributing them to an aggregate number of all firms, 'densities' of occupied in R&D amounted to 3.8% at each firm.

The aggregate number of workers employed in R&D, including professionals, from 1991 to 2000 varied as follows. If we regard an aggregate number of workers occupied in R&D in 1991 as 100%, by 1994 it had diminished to 84.1%, by 1997 to 70.7%, by 2000 to 69.2%.

If we particularly consider the 'popularity' of those types of partners in innovations whose contributing entails organizational efforts, financial costs, the following picture will be received.

Table 6.16 of Appendix 3 lists partners in innovation processes in a descending order of significance. The table also shows the relative role of foreign and local or regional partners in innovations. Among firms – buyers as 'innovation partners' local, St. Petersburg firms (mean rank = 0.81) dominate, firms in Russia and the CIS were close to them in significance (mean rank 0.70). Firms of foreign countries are approximately in the middle (mean rank = 0.62), behind St. Petersburg and Russian firms, but anticipating firms of the Leningrad Region (mean rank = 0.45) and Northwest Russia (mean rank = 0.43). Such a geographical ratio of firms and suppliers appears to be different. Among firms – suppliers foreign firms are leading (mean rank = 0.65). St. Petersburg firms (mean rank = 0.58), Russian firms and CIS firms (mean rank = 0.48) are lagging behind this number of partners in innovation. Firms in the North-west (mean rank = 0.28) and firms in the Leningrad Region (mean rank = 0.25) are far behind.

Among consultants 'local' partners (mean rank = 0.48) came first, foreign consultants were slightly behind (mean rank 0.35). However, the share of foreign consultancy firms in the St. Petersburg market is large. Participation of advisers from Russia and CIS (mean rank = 0.18), North-west (mean rank = 0.13) and, finally, from the Leningrad Region (mean rank = 0.12) is visibly weaker. Foreign investors are obviously leading (mean rank = 0.41). Investors in St. Petersburg are lagging noticeably behind in this activity (mean rank = 0.35). The lagging behind of Russia and the CIS is even more noticeable. Firms of the North-west (mean rank = 0.08) and firms of the Leningrad Region (mean rank = 0.08) hardly participate in innovation processes at all.

There is similar weak participation in innovation processes in the industry of St. Petersburg of such firms as 'technology transfer firms' of new process engineering' (activity of firms of St. Petersburg at a level of mean rank = 0.32), 'research firms under contract' (activity of St. Petersburg firms at a level of mean rank = 0.32), 'universities HEIs (activity of St. Petersburg universities and HEE at a level of mean rank = 0.31). The development of 'remaining activity' of 'technology transfer firms' of the federal centre seems interesting. This activity is at a level of mean rank = 0.21, lagging behind the activity of 'technology transfer firms' of St. Petersburg. During the prevalence of centralized planned economy the significance of central, branch establishments introducing new process engineering was at its highest. The same ratio also occurs significant type of partner in innovation – stakeholders. The contribution of stakeholders located in St. Petersburg was appreciated by our respondents at a level of mean rank = 0.26. Regarding significance the contribution of 'central' stakeholders is close at 0.21. The contribution of all remaining territories is small.

Trade associations (activity of organizations of St. Petersburg at the level of mean rank = 0.26), training programs (activity of programs of St. Petersburg at a level of mean rank = 0.22), sponsors (activity of sponsors from St. Petersburg at a level of mean rank = 0.14) complete the hierarchy of participants of innovation process on industrial firms of St. Petersburg.

6.2.3. Prerequisites for the construction of innovation networks

To find out the location of the partners of the innovation activities, the managers surveyed were asked: 'Who are your main partners assisting you to introduce a novelty, where they are located?' The responses are listed in Table 6.17 of Appendix 3.

The hierarchy of significance of partners of industrial firms on innovation process is abundantly clear. In Table 6.23 such partners are listed in descending order of significance. The table also demonstrates, the relative role of foreign and local or regional innovation partners. Among customer firms St. Petersburg firms (mean rank = 0.79) dominated, Russian and CIS firms (mean rank = 0.60) were close to them in significance. The firms of foreign countries are approximately in the middle (mean rank = 0.50), lagging behind St. Petersburg and Russian firms, but advancing firms of the Leningrad Region (mean rank = 0.44) and the Northwest Russia (mean rank = 0.36). Such a geographical ratio for firms – suppliers is rather similar. Among firms – suppliers firms of St. Petersburg (mean rank = 0.61) were definitely in the lead. Foreign firms (mean rank = 0.55) both from of Russia and the CIS (mean rank = 0.43) lagged behind them. Firms of the Northwest Russia and the Leningrad Region (mean rank = 0.24) were at the bottom of the list of innovation partners.

Regarding the advisers, local St. Petersburg firms are in the lead (mean rank = 0.51), foreign firms notably lagged behind (mean rank = 0.31). However, it is necessary to consider that in the St. Petersburg market of consultant services the share of foreign firms is fairly large. The participation of the advisers from Russia and CIS (mean rank = 0.17), from the Leningrad Region (mean rank = 0.13) and, finally, participation of the advisers of Northwest (mean rank = 0.11) is little. When it is the question of investors, a little super-activity was typical to the investors of St. Petersburg (mean rank = 0.40). The foreign investors (mean rank = 0.32) a lagged slightly behind. The legging behind of Russia and the CIS (mean rank = 0.22) was even more appreciable. Firms of the North-west (mean rank = 0.08) and firms of the Leningrad Region (mean rank = 0.10) practically do not participate in innovation processes at all.

Such organizations as 'companies of innovation transfer' (activity of St. Petersburg firms at a level of a mean rank of 0.31), 'R&D companies under the contract' (activity of St. Petersburg companies at a level of a mean rank of 0.33), 'universities , HEIs (activity of St. Petersburg HEIs at a level of a mean rank 0.28) participated approximately equally little in the innovation processes of the industry of St. Petersburg. The development 'of residual activity' of introducing organizations of the Federal center was interesting. This activity was at a level of a mean rank 0.19, superseded only by activity of introducing organizations of St. Petersburg. During the centralized planned economy the significance of central, branch entities inputting new know-how was dominating. The same ratio was also exhibited in the following innovation partner, i.e. state bodies. The contribution of state bodies allocated in St. Petersburg was estimated by our respondents at a level of a mean rank of 0.33. The contribution of 'central' state bodies was close to a significance of 0.22. The contribution of all the remaining territories was non-comparably small.

The hierarchy of the innovation process participants, regarding industrial firms of St. Petersburg, was led by trade associations (activity of organizations of St. Petersburg at a level of a mean rank of 0.27), training programs (activity of the programs of St. Petersburg at a level of a mean rank of 0.22), sponsors (activity of the sponsors from St. Petersburg at a level of a mean rank of 0.19). At the same time, one could see a significant disharmony of regional connections regarding the innovation process taking place in the industry of St. Petersburg. The closest and the most natural partner of the city industry – the Leningrad Region industry, and the system of organizations appear to be an outsider. It would be natural if the region is mainly agrarian. But the Leningrad Region is an area with a well developed diversified industry. Thus, the disintegration of economic and technological connections between the city industry and the Leningrad Region industry has appeared to be rather deleterious.

To determine the degree of interest of firms in the presence of their partners in innovation process in the region, the questionnaire posed a special question: 'Is it important for your firm that the suppliers of technologies or partners in cooperation are located in the region (near your firm)?' The given problem was answered positively by 61.1% of managers. The negative answer 'is not important' was reported by 36.5% of respondents. 2.4% had no definite opinion. One of the most essential issues revealed by the answers of the managers surveyed on this question was the recognition of the significance of the regional economy for the success of their activities. The answers obtained expressed a favorable orientation among the leaders of firms of real sector of economy St. Petersburg. Almost 2/3 of firms were interested in activating intraregional connections. An 'own' regional partner is preferential to them, compared to 'third-party', external partners. The heightened 'cosmopolitism' was demonstrated by 36.5% of St. Petersburg firms.

Managers were asked the following: 'How do you cooperate in the area of innovation process?' The cooperation with suppliers was the most intensive. Among the firms surveyed, 68.3% cooperated with suppliers. The preferred form of co-operation was formal cooperation. It was characteristic for 50% of all researched firms. The informal cooperation with the firms suppliers was characteristic for only 18.3% of firms. A little less intensively the firms cooperate with others, e.g. state and private firms, whereas with private in 6.1% more often than with state. As in the case of cooperation with suppliers and buyers firms, the preferred form was formal cooperation. Among the firms inspected on the basis of formal cooperation 37.8% of firms cooperated 'with other private organizations', and 36.6% of firms cooperated 'with other state organizations'.

To identify impediments to partnership in innovation issues, the following question was specifically formulated: 'If you do not cooperate closely with other firms or organizations, why? Point a level of importance of the reason'. The answers are presented in Table 6.18.

Table 6.18
Reasons of absence of co-operation with other firms in innovation activities (%)

Reasons	0 – least important	1	2	3	4	5 – very important	Mean rank
1. Problems can be solved internally	15.1	7.1	11.9	14.3	15.1	36.5	2.20
2. External solutions are too expensive	25.8	11.7	15.6	15.6	13.3	18.0	1.65
3. No suitable partner available	29.9	16.5	12.6	13.4	10.2	17.3	1.47
4. Risk of revealing cost structures	28.1	19.5	14.1	13.3	11.7	13.3	1.42
5. Risk of losing know-how	40.6	14.8	7.8	8.6	10.2	18.0	1.32

Data in columns 2–7 is in %; data in column 8 = mean rank.

The data demonstrate that a distinctive feature of modern Russian management is to aim at the reduction of their dependency upon other firms, upon potential partners. The firms persistently aimed at mastering only such kinds of production which would allow this firm to manage without the participation of other firms. The even applies to such a sphere of activity as innovation, where, probably, it is almost impossible to manage without partners. The priority of such 'reasons of absence of cooperation' as 'Problems can be solved internally' is especially important and symptomatic. Of the firms surveyed 36.5% estimated a significance of named 'reason' most highly, they have called it as the 'most relevant'. To achieve such independence from innovation partners is only possible by waiving attempts to master high tech production and commodities. This is confirmed by the fact that the managers admit as notably less relevant 'natural' hindering cooperation factors such as 'External solutions are too expensive' (only 18% of managers have recognized this factor in the category 'most relevant' and 'No suitable partner available' (only 17.3% of managers have recognized this factor in category 'most relevant').

To describe the participation of federal and regional government in the development of innovation processes, a (special) question was formulated: 'Do you participate in any scientific, technological or innovation project?' Only 5.9% of firms were participating in a technological or innovation project originated by the Government of the Russian Federation. In the projects originated by the Government of St. Petersburg and the Leningrad Region, only 5.9% of firms were participating. In other words, the support received by firms for innovational development was minimal. It certainly should be greatly intensified. An additional question was asked: 'If you were not participating in the projects originated by the government, have you ever undertaken attempts to participate in such projects? 'The negative answer 'no, never' was given by 92.4% of managers. Only 7.6% of managers undertook such attempts, but it had not been a success.

The extraordinary scarcity of participation of firms in innovation projects originated by the government prompts a natural question on the reasons of such scarcity. To find out these reasons, the following question was formulated in the questionnaire: 'What were the reasons for the non-participation of your firm in government innovational projects?'. The distribution of response is presented in Table 6.19 of Appendix 3.

The nature of the distribution of the responses shows that managers were not inclined to blame any external structures for the fact that they were lacking support in innovation initiatives. They explained non-participation in innovation projects by a more depressive reason – 'simply, not up to it', i.e. they have more serious problems to be urgently solved than to manage innovation projects. Their topicality in the unstable economic conditions of 1998–2000 was too small to pay attention to the absence of innovation projects.

To identify threats arising on the path of implementation of technical innovations, a question was specifically posed to the respondents: 'What were the main threats on the way of implementation innovations? Please point out their relevance'. The responses are presented in Table 6.20.

Table 6.20
Main constraints on innovation implementation (%)

Constraints	0 –of little importance	1	2	3	4	5 – very important	Mean rank
1	2	3	4	5	6	7	8
1. Insufficient funding	11.8	7.6	6.5	12.4	14.7	46.5	3.21
2. Insufficient technical know-how	39.6	17.2	18.9	11.2	8.9	3.6	1.30
3. Insufficient management time	40.5	19.0	10.1	10.7	12.5	7.1	1.43
4. Recruiting skilled personnel	33.9	16.7	15.5	17.3	11.3	5.4	1.56
5. Research personnel too costly	24.0	9.6	9.6	18.0	20.4	18.0	2.29
6. Accessing consultants / specialists	36.3	13.1	16.7	13.7	11.3	8.3	1.58
7. Insufficient information on customer needs	52.1	16.6	11.8	11.8	5.9	1.8	0.99
8. Insufficient information on market potential / volumes	44.7	18.2	14.1	9.4	10.6	2.9	1.21
9. Insufficient information on sources of external know-how	33.3	18.5	20.2	16.7	6.5	4.8	1.44
10. Lack of autonomy within organization of the firm	58.1	22.2	7.2	7.8	3.0	1.8	0.73
11. Standardized products only	36.5	12.6	12.0	6.0	12.6	20.4	1.86

The data in columns 2–7 is in %; in column 8 = mean rank.

The data in the table is similar to the data in Table 6.19 revealing the estimation of general difficulties experienced by firms in St. Petersburg. It emerged that the difficulties in paths of the innovation process in the firms of the region were basically the same as difficulties on the path of daily operation, on path of the daily survival of firms. In other words, as was noted earlier in connection with the data of Table 6.13, the obvious priority of price competition in the estimation of difficulties revealed that the main policy of St. Petersburg firms in the period 1997–2000 was a policy to survive, instead of a policy of technological development. And the chances for the actualization of a policy of innovation development of firms of orientations were very small in the immediate prospects.

None of the possible answers enumerated in versions of this question, were estimated high. Only 'Insufficient funding' was estimated at a level hardly above neutral estimation at 3.21. Thus it is noticeable that the distribution of the estimations of the relevance of listed constraints was rather small. This suggests that the difference between listed constraints was not so distinctive in most leaders and specialists' opinion. In other words, there were practically no leaders involved in an orientation to the innovation activities at that time.

To what extent was the orientation revealed a 'sign of the times', and to what extent did it prolong the tendencies from past times? To understand this, a question was posed: 'How many times in the last two years did your firm bring services from external organizations to solve the problems?'. The distribution of the answers to the question is presented in Table 6.21 of Appendix 3.

Note that the tendencies on the previous pages are completely confirmed by the data in the table. Services connected to the development of innovation process: 'Internationalization and exports' = 0.96, 'Research and development' = 1.27 appear not to be demanded. The most popular were services: 'Partner search and networking' = 4.00, 'Personnel training' = 3.10, 'Production' = 3.03. Moreover, note that predilection and capacity to share own business efforts with partners, with firms rendering services, appeared to be on a rather low level. The firms obviously aimed at managing with their own resources. They were ready to solve acute problems at a lower professional level than specialized firms could ensure, 'for the sake of autonomy and independence'.

By which channels do firms, participants in the Presidential Program receive information on innovations necessary to them? A question was asked. The answers are listed in Table 6.22.

Table 6.22
Sources of appropriate innovations (%)

Sources of innovations	0 – of little importance	1	2	3	4	5 – very important	Mean rank
1	2	3	4	5	6	7	8
1. Conferences / exhibitions	7.3	7.8	8.9	19.0	24.0	33.0	3.32
2. Journals/technical literature	11.1	13.9	11.7	15.0	24.4	23.9	2.91
3. Customer firms	24.6	15.1	12.8	12.3	19.0	16.2	2.27
4. Supplier firms	27.5	12.9	12.4	14.0	18.5	14.6	2.18
5. Consultants	32.8	15.0	18.9	10.6	13.3	9.4	1.80
6. Industry associations	45.2	13.0	14.7	10.7	9.0	7.3	1.41
7. HEIs	57.9	13.5	12.4	9.6	3.9	2.8	0.93
8. Universities	59.0	14.0	10.7	9.6	2.8	3.9	0.91
9. Public technology transfer	57.3	18.5	9.0	6.7	5.6	2.8	0.90

Data in columns 2–7 is in %; data in column 8 = mean rank.

The first obvious fact is the low activity of firms in looking for sources of information about innovations. To follow the technological, possible product innovations for stages of their origin is important for really innovative firms, even in the initial stage. Accordingly, information on exhibitions (estimation = 3.32), consumer firms

(estimation = 2.27) appears to be rather ‘redundant’, ‘second hand’ information. ‘Information from consultants’ has received an estimation ‘below the mean’, accordingly 1.80. This means that firms were not inclined to spend for services of advisers. Absolutely lower than the level of consideration was the predilection to receive information from the most effective sources of innovation information: from ‘Public technology transfer = 0.90, from ‘universities’ = 0.91, from HEIs = 0.90.

The influence of organizations of technological support on the firm was important to study. The following scale was chosen: the maximum of the possible estimations (top rank) of the influence of organizations of technological support on the firm = 5, neutral (mean estimation) = 3, see Table 6.23 in Appendix 3. It turned out that none of the listed kinds of influence received even a neutral mean rank. Even the most easily accessible kind of influence ‘Highly skilled personnel’ got only 2.27. This shows that in the eyes of the managers the influence of organizations specializing in rendering technological support, mainly got a negative estimation. The table again confirms that the capability to create innovation networks, to collaborate with R&D centres looked especially pessimistic in the eyes of the managers. This aspect of influencing of organizations of technological support was an absolute outsider with a minimum estimation of 0.91. This estimation means ‘practically no influence at all’.

There were no doubts about the deplorable prospects of the innovation development after the data in Table 6.24 of Appendix 3. Here the reasons for the low utilization of services of organizations of technological support were analyzed.

Comparison of the information in Tables 6.31 and 6.24 of Appendix 3, permitted the assumption that managers quite seriously realize that they were extremely cautious in the utilization of organizations for technological support. Thus they were, however, not inclined to dramatize this incompetence of the activity. According to the data in Table 6.32 of Appendix 3, they do not see any severe reasons demanding such technological support. It is apparent that absence of necessity of such technological support was one of the most common reasons. The mean rank of the significance of the given reason was 1.72. On the value it relates only to the most traditionally named ‘reason’ – ‘Too expensive’ (mean rank = 1.83), this means: ‘we want the services of organizations of technological support to be cheaper’. But, the ‘reason’ evinced simply given the economic nature was doomed to be the leader of popularity. Any businessman is interested in reducing the costs of the services of his potential and existing partners. If he does not plan in visible terms to take advantage of the particular service at all, nevertheless, he would probably wish that this service came at a lower price.

What are those directions of the firm, St. Petersburg managers were inclined to invest in their own resources, attention, means? The answer to this question is in the data presented in Table 6.25 of Appendix 3.

The most ‘pragmatic’ directions are financed first. Thus ‘purchase of equipment’ takes the lead in financing (mean rank = 1.62, ‘first of all’). In second place was ‘Product development’ (mean rank = 1.83). This direction had a rather broad spectrum of values. In the present Russian conditions such development, as a rule, did not suppose some essential innovations. In the present conditions ‘product development’, like the implementation of ‘own R&D’ (mean rank 2.12) were the attempts to adapt

production to deteriorating grading economic conditions. In particular, there is talk of attempts to compensate the continuing destruction of technological chains, impairment of deliveries to replace by new alternate substitutes. The clear sense of interest in innovations such directions of financing as 'acquisition of patents and licenses' (mean rank = 2.34). But this estimation is obviously unfavorable, it varies between values of a scale 'secondly' and 'thirdly'.

'Services rendered by external research firms' (rank 3.13), and 'Services rendered by external technology transfer firms' (rank 3.19) are rarely used. Thus, the overwhelming majority of firms in the region realize a strategy of survival, at best on extensive growth strategy. To some extent it is possible to conclude that their communicative activity is very low. Survival alone tactics are the prevailing tactics. The only kind of contacts realized at a level close to normal is contact with consumers and with suppliers. Accordingly, the intensity of contacts with universities and other HEIs is rather low. And still about 4–6% of firms are characterized by a significant orientation to innovation activities. For them the intention is typically to maintain contacts with the research organizations, HEIs not only for the reception of new experts or for retraining those already working, but also for the development of new innovative products and services.

Under favorable conditions those firms which are really oriented towards innovative development, ready to form and expand innovational networks, ready to increase their openness to establishments and organizations of infrastructure, and consequently can act as an engine of the development of regional economy, such leading firms can accordantly expand the base of demand for highly skilled experts, including, experts managers.

Today it creates rather fragile chances for HEIs, but these chances may to become significant in the long term. Anyhow, in the region investigated there is still a small, but nevertheless quite clear, real demand for training of experts – managers, capable to introduce high technologies, capable to introduce innovational systems making a concession on intensity to the advanced countries.

6.3. Shadow practices of management and prospects of training development

A number of researchers consider that not only innovational prospects but also the very survival of the Russian economy and the industry are at stake. The answer depends upon eliminating both corruption and the shadow economy (see for example, Kordonskij 1996, 64–67; Aslakhanov 2004, 179–216; Egorshin et al 2000, 121–138; Belousenko 1998, 59–66). When we talk about the prospects of the development of formal and informal education of managers it is abundantly clear that these prospects depend especially on the degree to which it will be possible to solve problems of the withdrawal of real business from the shadow. In the present chapter the prospects of a withdrawal of the Russian business from the shadow, as an important precondition for increasing the demand for trained managers, the precondition of the development

of formal and informal training of the Russian managers are analyzed. Thus, the basic hypotheses of the research were:

- The introduction of innovations allows firms to refuse to remain in or move into the shadow, considering shadow as less effective and a more risky survival strategy;
- Innovational activity of firms is neutral concerning their adherence to the shadow; it does not push a firm into the shadow, and does not push a firm out of the shadow.

In order to check the hypothesis, we have used the survey data; see characteristics of the study and official statistics in Appendix 2. The tendencies found as a result of research are close to those forming the economy of the city, and, probably, in the country as a whole.

Hierarchy of types of deviant behaviour of firms according to degree of prevalence

When trust becomes weaker among economic actors, managers start to apply those practices which cause the withdrawal of firms from civilized business into engaging in the shadow economy. Law-abiding managers could avoid using some shadow practices. However, some of the shadow practices, or rather, deviations, prove almost inevitable.

It was possible to rank these deviations regarding the degree of their inevitability in business life. For this purpose, the following question was posed to the respondents: "What do you think, to what extent are the following situations inevitable in the current activities of a company?" A list of situations, including eight versions of deviations from the standard activity of firms, adopted in civilized business, is presented in Table 6.34. Regarding each of the eight versions of deviation, respondents were asked to select one of the five alternative responses:

1. It is absolutely inevitable
2. It is more inevitable than avoidable
3. In between inevitable and avoidable
4. It is more possible to avoid than it is inevitable
5. It can be avoided.

A hierarchy of these deviation types by degree of inevitability is shown in Table 6.34. For the sake of visualization, the scale of estimation of capability is utilized in this table: instead of five points on the scale, three integrated points on the scale are used. In the tables below, all five original points of the scales are presented. Let us look at the data in Table 6.26.

Table 6.26
Hierarchy of types of deviant behavior of firms by number of "contaminated/ affected" (in %)

Deviation from the standards of civilized business	"it is absolutely inevitable" (1)	"in between inevitable and avoidable" (2, 3, 4)	"it can be avoided" (5)
D1. Making fictitious (bogus) contracts to evade tax payments	44.9	27.1	28.0
D2. Bribes to officials	38.3	22.4	39.3
D3. Double-entry bookkeeping	36.1	25.7	38.2
D4. Non-fulfillment of business obligations by partners	24.7	39.4	35.9
D5. Infringement of rules of the customs control	26.4	26.4	47.1
D6. Cashing financial resources through fictitious firms	29.3	17.0	53.7
D7. Racketeering and threats with violence	8.5	22.6	68.9
D8. Own nonfeasance, default	8.4	20.6	71.0

As the data above demonstrate, Russian business practices deviate a great deal from the norms of civilized business. There is a rather sad saying: 'in modern Russian business, deviation from standards is the standard.' The modern Russian press is full of emotional dramatizations of characteristic episodes illustrating this. When the Russian prosecutor's office in attempting to ensure the law is enforced, as promised by President V. Putin, when the prosecutor's office make attempts to 'set' the activity of large firms into the framework of the law, there is obvious indignation among widespread business communities. These business communities perceive the operations of the prosecutor's office as a violation of the standards of business life. They dramatize it in such a way that the operations of the prosecutor's office could be seen as trying to be about a global redistribution of property, or a return to the socialist might of the state. In their conception, the freedom of the market is inseparable from freedom, in other words, tantamount to breaking the laws.

Deviation and firm's innovativeness

Is it the case that in such perverted, unnatural conditions even an innovative process has assumed special exotic forms in Russian firms, and has also begun to promote a resorting to deviations from civilized business standards? In order to check such a supposition, for each of the eight deviations mentioned above, we measured the correlation with an indicator, ´presence or absence of innovations in a firm´. For this purpose, the following question was posed to managers: has your firm succeeded in acquiring an entirely new product or service in the last 2–3 years? If the firm had developed an entirely new product, this firm was conditionally considered among the 'active-innovative firms'. There were 61.6% of such firms. If this was not relevant, we placed such a firm in the category 'passive-innovative firm'. There were, correspondingly, 38.4% of such firms.

Taking the analysis further, it is expedient to immediately point out that 'active-innovative firms' have appeared to be more free from deviant behavior, in comparison with ´regular firms´, those without innovation activities. Therefore, in order to underline the advantage revealed, we included two elementary quantity indicators of advantage in 'active-innovative firms':

1. The parameter 'pure – advantage' demonstrates the percentage of 'active-innovative firms', with greater freedom from deviant behavior then 'passive-innovative firms'. This parameter is calculated on the basis of the bivariate distribution in Table 6.27 of Appendix 3 according to the following formula: K1 = (a1 – a2) + (в1 – в2) – (d1 – d2) – (e1 – e2);
2. A contrast parameter is per se similar to the parameter 'net advantage', but it intensifies a weight to the most categorical evaluations on the poles of a scale: "it can be avoided", or "it is absolutely inevitable," in contrast to the average values of the scale having "normal" weight. This parameter is calculated on the basis of the bivariate distribution in Table 6.27 of Appendix 3 according to the following formula: K = 2 * (a1 – a2) + (b1 – b2) – (d1 – d2) – 2 * (e1 – e2)

As already pointed out, ´making fictitious (bogus) contracts to evade tax payments´ is the most infectious disease, an economic malady of St Petersburg firms. As can be seen from Table 6.28 in appendix 3, the contingency about mentioned indicator with the indicator 'passive-innovative firms' is one of the highest among other types of deviation as statistical indicators. Pearson´s coefficient of contingency (P) is equal to 0.228.

'Active-innovative firms' were fairly uniformly distributed on a scale of readiness to ´make fictitious (bogus) contracts to evade tax payments´: 36.6% of them make such deals, almost as many, 38.3%, are capable of running their business without it. Another situation is characteristic of ´the passive-innovative firms.´ Here, there is an obvious preponderance of orientations towards deviant behavior: 58.2% of firms recognize that without those fictitious (bogus) contracts they cannot work, while only 13% are capable of working without fictitious (bogus) contracts.

Firms that have introduced new products are less often compelled to give bribes to officials. Among firms which have introduced completely new products, 46.6% consider that it is possible to manage without giving bribes to officials. On the other hand, among the firms which have not introduced new products, only 22.6% consider that is possible to manage without bribes. Among innovative firms, 23.3% consider that without bribes to officials they cannot work. Among 'passive-innovative firms', 51.6% consider that without bribes it is impossible to work.

Among firms which have in principle introduced a new type of product, 45% are capable of managing without double-entry bookkeeping; 33.3% suppose that they cannot work without it. Without double-entry bookkeeping, 46.5% of 'passive-innovative firms' cannot work, while only 17.8% of them are capable of managing without double-entry bookkeeping.

As it is seen from Table 6.29 of Appendix 3, of 'active-innovative firms', 46.6% are capable of avoiding non-fulfillment of business obligations by associates; only 20%

of ‘active-innovative firms’ consider it inevitable. Among passive firms, 34.4% cannot avoid ‘unreliability’ of partners, while only 15.6% of firms are capable of avoiding it.

Of ‘active-innovative firms’, 53.3% are capable of avoiding customs conflicts. Only 21.7% of such firms consider such conflicts inevitable. Of ‘passive-innovative firms’, 42% are capable of avoiding customs conflicts, compared to 25.9% of firms that consider such conflicts inevitable.

Of ‘active-innovative firms’, 58.3% are capable of avoiding cashing in through bogus firms; 25% consider such cash-converting/money laundering inevitable; 36.7% of ´passive innovative firms´ avoid such cashing, in contrast to 43.4% that consider such cashing in inevitable.

Table 6.30 of Appendix 3 shows that of ‘active-innovative firms’, 63.3% are able to manage without racketeering and threats of violence. Only 5% cannot avoid it. Of ´passive firms´, 71% are capable of managing without racketeering and violence, while 16.1% consider it inevitable. This is the only deviation from the standards of civilized business, in which ‘active-innovative firms have no advantage over ‘passive-innovative firms’. Moreover, ‘passive-innovative firms’ have a small statistically significant advantage. However, this ´advantage´, obviously, is illusionary, since its value does not exceed permissible statistical inaccuracy.

In estimating their own capabilities to avoid a breach of obligations, ‘active-innovative firms’ claim an advantage over ‘passive-innovative firms’. This advantage is more noticeable at the poles of the evaluation scale. The categorical estimation ´own nonfeasance is quite possible to avoid´ (18.5%) was more often stated by managers of ‘active-innovative firms’. The categorical negative estimation ´a breach of own obligations is inevitable´ (6.5%) was more often reported by managers of ‘passive-innovative firms’.

Thus, it is possible to consider innovation activity as a remedy against such a particular malady as violation of standards of civilized business in Russia. In this case, the following hierarchy could be constructed, given it degree of the “malady’s” sensitivity to the medicine.

Table 6.31
Deviance and innovativeness of firms: hierarchy of their contingency

Deviation from standards of civilized business	Parameter of contrast K	Pearson’s coefficient	Net – advantage
Bribes to officials	71.7	0.245	42.3
Making fictitious (bogus) contracts to evade tax payments	68.2	0.228	43.4
Cashing in through bogus firms	66.0	0.238	40.0
Double-entry bookkeeping	59.6	0.205	40.4
Non-fulfillment of business obligations by partners	55.4	0.201	45.4
Own nonfeasance, default	32.5	0.106	7.5
Infringement of the rules of customs control	30.6	0.071	15.5
Racketeering and threats of violence	- 3.5	0.040	3.4

The data shows that incompatibility of such characteristics of firms as ´innovativeness´ and ´deviance´ is real and fairly strong. Probably, we are talking about already-created, qualitatively different policies of survival and development of firms in today's Russian market. Some firms make special efforts "to keep in the shadow", to find ´shadow relationships´, and to be active in enforcing of 'defensive capability of shaded structures'. This entails quite significant costs. Other firms rely on constructive innovation development. These two strategies are difficult to combine, making investments in both policies at the same time. If supported by real-life evidence, there is a basis for optimism. It means that, as soon as the managers of modern Russian firms begin to understand that by increasing these innovation activities, they will gain much more by strengthening these shadow transactions, in this case withdrawal from shaded/hidden interests and moving towards actuation into innovation activity will come to have a mass nature. It would be reasonable to direct the efforts of both Russian regional and federal government policies, and Unions of Industrialists and Businessmen, as well as international funds maintaining the processes of transformation in Russia, in this way.

Contingency of "deviance" of firm and its form of ownership

The following question looks quite reasonable: is innovativeness really such an influential factor in relation to the deviance of firms? Is it not quite possible that the form of ownership of the firm might be a more powerful factor? We also tested this hypothesis for every type of deviant behavior.

Let us consider each type of deviance in the same order, i.e. in descending order of number of firms, contaminated/affected by the type. Let us begin from the most common form of deviation 'Making fictitious (bogus) contracts to evade tax payments'.

It can be seen among state firms that 33.4% are capable of managing without fictitious contracts, 35% among the privatized, 22.6 % among the private from the moment of their creation. To illustrate, we have added ranks of preference for each pattern of ownership in the second column of this and the following tables; it would be possible to call them ranks of rejection of deviant behavior.

Thus, joint ventures appeared to be the "clearest" concerning being forced to make fictitious (bogus) contracts to evade tax payments. The rank of preference is 1 for them. Among them, only 33.3% of the firms consider it impossible to work without bogus contracts. Privatized firms are close behind, 35% cannot manage without bogus contracts. Among state-owned firms, there were 41.7% of such firms. The situation of firms private from the moment of creation is the worst regarding all business; here, 54.7% of the firms cannot manage without bogus contracts. Their rank of preference is the lowest – 4.

If we compare firms by size, small enterprises are the most involved in bogus contracts, 56.8% cannot manage without making bogus contracts.

The data of Table 6.32 of Appendix 3, joint ventures are compelled to exhibit higher activity in offering bribes to officials: 54.6% of them consider it impossible to manage without bribes, i.e. 44.4% of the private, and 41.7% of the state-owned

firms. Privatized firms appeared to be most bribe-free; only 30.7% of them consider it impossible to manage without offering bribes to officials.

Small enterprises have no advantages, but neither do they suffer from a rendering of tribute money, bribes to officials; 35.5 % of them feel it is impossible to avoid such bribes.

Private enterprises, more often than others, apply the mechanism of double-entry bookkeeping; 47.1% cannot manage without double-dealing. State firms also appear experienced in double-entry bookkeeping; 41.7 admit to habitual and routine. Joint ventures to a lesser degree use double-entry bookkeeping maneuvers, as 30% of them are victims of this 'necessity'. Privatized firms are most free of this "affliction"; only 22.5% of them cannot refuse. Champions in are small enterprises, 52.2% of them are addicted to this.

Such a business scourge as the omission of business obligations by partners' threatens firms irrespective of their pattern of ownership. State firms suffer slightly less from this evil; only 16.7% of them accept the inevitability of breaking obligations. Joint ventures have also learned to make partners beholden to them; only 18.2% of them consider the unreliability of associates an inevitable evil. Private enterprises suffer more significantly from it: 24.1% of them were used to unreliability. Privatized firms are most vulnerable to the unreliability of partners: 29.3 % of them consider unreliability inevitable. Small enterprises are close to the leading position regarding the habitual unreliability of partners, with 28.9% of them recognizing it as such.

Infringement of rules of customs control is analyzed in Table 6.33 of Appendix 3. Joint ventures suffer most of all from 'Infringement of rules of customs control': 36.4% of them consider breaking customs control provisions inevitable. Private enterprises are close to them, 33.4% of them accept this. Privatized firms are notably less hindered by such conflicts with 23.1% of their total number. Only 9.1% of state firms are reconciled to the inevitability of 'Infringement of rules of customs control'. Small enterprises are essentially involved in 'Infringement of rules of customs control'; 33.3% admit it.

Cashing through bogus firms is a typical problem of firms' financial activities. Privatized firms serve as a sample of loyalty; only 18.0% of them consider the converting of money resources into cash through bogus firms inevitable. Joint ventures are close to them, with 18.2%. The situation is notably worse for private firms; 35.8% are reconciled to the necessity of converting money resources into cash through bogus firms. The worst situation is in state-owned firms; almost 41.7 % of them already cannot manage without such a fraudulent practice. Small enterprises are also rather defenseless against the necessity of using bogus firms; 36.3% of them chronically need to convert into cash through bogus firms.

Russian firms are often faced with problems of racketeering and threats of violence. Joint ventures have the most obvious advantages over others, being free of racketeering and threats of violence: 81.9% of such firms are determined that they can avoid it. State firms also have a similar advantage: 72.7% of them are free of racketeering. A worse situation prevails in privatized firms, as only 69.2% of them are free of racketeering. An even worse situation is characteristic of private enterprises;

only 66.6% of them are free of racketeering. Small enterprises are most vulnerable; only 63% are free of it.

Russian managers often recognize that their firms do not comply with obligations to partners, see Table 6.34 of Appendix 3. The advantages of the joint ventures are absolutely clear. They appear according to the leaders to have acquired principles of responsibility from western management culture. Absolutely all of them report confidence in their own reliability in its fulfillment of their obligations. Private firms appear slightly less reliable; 76.4% of them are sure of their readiness to avoid the non-fulfillment of their obligations. For state firms, this parameter is even more modest, with a value of 72.8%. Privatized firms appear to be the most unreliable, likely to opt out according to their own estimation; only 61.5% of them are fully prepared not to break their obligations. Small enterprises, according to their partner reliability, occupy a mid-position, as 73.9% of them are sure of their responsible position.

If we construct a general table for each pattern of ownership given all kinds of deviant behavior, the result is 6.35.

Table 6.35
Hierarchy of patterns of ownership on the level of "aggregate deviation"

	D1*	D2*	D3*	D4*	D5*	D6*	D7*	D8*	Final place
Joint ventures	1	4	2	2	4	2	1	1	17
Privatized	2	1	1	4	2	1	3	4	18
State	3	3	3	1	1	4	2	3	20
Private from the beginning	4	2	4	3	3	3	4	2	25
Pearson's contingency coefficient (P)	0.177	0.117	0.151	0.001	0.115	0.085	0.104	0.078	

* Types of deviation (D1–D8) are listed in Table 6.26.

From these data, it is evident that joint ventures have some kind of advantage in present Russian conditions. They are exemplary in their loyalty. Privatized firms are close to them, and state firms slightly behind them. Firms private from the moment of their creation are disposed to deviance.

For modern Russian business, the influence of western management culture is an important reference point, possibly to be emulated in the future. For Western businessmen, a clean reputation is more important. The demonstration of real profitability from such a style of behavior in business offers very significant support to Russian business.

In addition, the above-mentioned beneficial role of joint ventures is the most innovative one. For the last two to three years, 77.8% of all the joint ventures were in principle capable of introducing a new product. Private enterprises are a little less active in the adoption of new products at 66%; state firms are even less active at 63.6%. The most passive are privatized firms; only 61.8% of them have introduced product innovations.

Privatized firms are also freer from deviant behavior in comparison with the average statistics of the firms. This is explained by the fact that, before privatization,

such firms were more developed technologically than others, and thus they had the best market opportunities. Until now they have counted on technological development rather than on the extension of their 'shadow' capabilities. Firms which have remained in state ownership are in the worst situation. However, the greatest 'shaded' activity is characteristic of firms that have been private since their creation. They were also compelled to use the capabilities of the shadow economy. This has formed a standard of business behaviour.

Probably, for future decades of business life in Russia, it will be necessary to struggle with this standard that has already been formed. If one is to make a total evaluation of how strongly a pattern of ownership influences the firms' level of deviation, the conclusion is clear. This factor is weaker than the innovation activity´ of the firm. Differences in the level of deviance between firms of different patterns of ownership are not so very distinct, whereas the differences in deviance between active-innovative and passive-innovative firms are absolutely clear.

Contingency of deviance of firms in various branches

The relationship between the deviance of business behavior of the firm and the branch the firm belongs to is even less clearly expressed. We have undertaken the first attempts to analyze this correlation. As a first approximation it proved rather difficult to follow the logic of what types of deviance are more common in the different branches. We plan to continue this kind of analysis in the very near future. We may be able to find some interdependencies and to give an explanation for them. For the moment, we present Table 6.36, giving the distribution of only one, the most frequent type of deviant behaviour ´Making fictitious (bogus) contracts to evade tax payments´ by branch.

Table 6.36
Making fictitious (bogus) contracts to evade tax payments (in %)

Branches	It can be avoided				It is inevitable	Total
Wholesale	25.0	15.0	20.0	10.0	30.0	100.0
Finance and insurance	25.0	0.0	25.0	0.0	50.0	100.0
Engineering and metal working, electrotechnicals and electronics	8.0	24.0	28.0	20.0	20.0	100.0
Food-processing, light industry	0.0	46.2	23.1	0.0	30.8	100.0
Information services, education, science, culture	14.3	9.5	14.3	14.3	47.6	100.0
Construction	10.0	0.0	40.0	10.0	40.0	100.0
Transportation	0.0	12.5	25.0	50.0	12.5	100.0
Power engineering, metallurgy, wood industry, furniture,	0.0	0.0	46.7	33.3	20.0	100.0
Retail trade and catering	0.0	0.0	25.0	25.0	50.0	100.0
Pearson's contingency coefficient P = 0.0292						

It was somewhat unexpected that wholesale and retail trades appeared to be polarized. Whereas the wholesale branch, among the branches of the city economy surveyed, is a

leader in loyalty, the retail trade turned out to be a leader in deviance. A probable reason for this may be essential differences in how the state controls their activity, differences in how they report to the tax inspections authorities. If we compare different industries with one another, the leader in freedom from deviance is ´engineering and metal working, electro technical and electronics industry´. The data shows that the higher the level of know-how development, the less the need of management for the so-called "doubtful profits" of the shadow economy.

As a whole, it is noticeable that of the three factors mentioned above, the innovation activity of firms acts as the strongest factor of distancing them from shady activity. This factor most probably acts concordantly with another factor, the level of technological development of a firm. However, such concordance is easy to explain. The higher the technological level is, the more grounds to expect that innovation will appear in this firm. Thus, means that a deliberate removal of ´the shadow economy´ could and should occur together with the activating of innovation processes in the real sector of the economy, in real firms. Joint ventures may play a significant role in this. Already in 1999–2000, to a noticeable degree, they acted as leaders in the activating of innovation processes, as leaders of liberation from shadow economic activities. This positive leadership was also maintained in 2005–2006; and, moreover, the influence of this positive leadership proved significantly greater.

The fact is that in 1999–2000, many foreign firms acted on the principle of ´acquisition of territories (niches) for future use´, i.e. ´to gain a firm foothold and wait´. Identical tactics have been implemented by the Russian Mafia structures. They acquired the property, they did not develop the production, and they waited for an enterprising businessman to redeem this property from them in order to start a real production process.

Regional and federal governments undertook major efforts to implement strong countermeasures to such a practice. A so-called expulsion mechanism of non-efficient owners by new, effective owners has been created. For this purpose, it was possible to use of accelerated bankruptcy; a broad campaign of re-structuring of industry was introduced by the government of St. Petersburg. This campaign was purposely accompanied by the special Program on Training Managers and Executives for the Enterprises of National Economy of the Russian Federation (Presidential Program).

Nowadays, the tasks mentioned above remain topical, but a shift of focuses is perceptible. It is more important today that, the activation of innovation processes should start to function. The following criteria, the `effectiveness in the intensification of the innovation processes in industry, in the economy of the city´ should be introduced as an important criterion of the functioning of the regional and federal government bodies.

Today regional authorities with the support of the federal government develop special programs to create (a) regional innovational systems (RIS), form an innovation center focusing on expertise, create relevant special economic zones, a system of techno-parks. Russian experts are seeking contacts with Western experts for the creation and development of RIS. In September 2006 the Finnish-Russian Innovation

Forum was held in Tampere; Russian experts made business contacts with Hermia, one of the largest techno-parks in Finland.

The tender commissions which estimate the business plans of 'new proprietors', new managers, could pay special attention to the innovation aspect of their prospective business activity. Preference should be given to those applicants investing in active innovativeness, in the development of new technologies.

Thus, the economy of the city, its industry would recover from this specific illness the here called a shadow, deviant behavior of companies. Accordingly, the economy of the region would act as an effective customer in the essential development of formal and informal training of experts – managers.

If this activity will also develop successfully in the future, the shadow processes will undoubtedly be eradicated from the economy of the region, and the level of trust between the basic actors of social and economic development will rise.

7. Informal education

7.1. Network resources for the informal training of managers

Information from subjects on the social environment of the firm is most significant for the enhancement of a manager's competence. The following twelve subjects, as such basic sources of information, are considered:

1. Firms – buyers
2. Firms – suppliers
3. Consultants/Advisers
4. Research organizations under the contract
5. Universities, Higher Education Institutions (HEIs)
6. Techno-parks
7. Scientific research institutes, design bureaus
8. Organizations – investors
9. Organizations – sponsors
10. State organs
11. Chambers of commerce and industry
12. Special training organizations

Each of them could be differently represented in the region in which the firm is located. For firms in St. Petersburg, for example, the following components or levels of a regional spectrum are important:

1. Organizations of St. Petersburg and the Leningrad Region
2. Organizations of the Northwest region
3. Organizations of the Russian Federation as a whole
4. Organizations of the CIS
5. Firms in Scandinavia
6. European firms
7. Firms further abroad

One firm can involve as partners subjects from only one regional level, for example, only from St. Petersburg, others can involve these subjects from four, five or even all seven regional levels. Taking into account seven 'potential' named regional levels and 12 kinds of functional specialization of the mentioned subjects, we present a matrix in Table 8.1. This matrix gave respondents a full list of optional responses: who are your partners that help you to introduce an innovation? Each cell of the matrix thus

corresponded to the concrete possible subject, capable of assisting the firm in the introduction of technological or product innovations. Thus, the total number of subjects to which any firm (if it has shown the maximal activity) could consult on the introduction of innovations is 12 x 7 = 84.

Operating companies and organizations, certainly, have no such number of partners in their training spectrum; they are compelled to behave selectively, involving only the most essential organizations in their development needs, refusing contact to those who are less relevant. Naturally, the most informative is the real networks of contacts which have crystallized during the operation of the companies and organizations, during their adaptation to economic and social conditions. This data is in Table 7.1.

Table 7.1
Subjects capable to give firms significant information, to exert training influence on their managers (%)

Subjects	St. Peters-burg and the Leningrad region	North-west region of the RF	Russian Fede-ration	CIS	Scandi-navia	Europe	Further abroad
Firms – buyers	49.5	19.8	27.4	5.7	1.6	2.4	0.8
Firms – suppliers	45.3	20.1	21.7	5.7	1.6	10.4	4.8
Consultants/Advisers	21.4	4.1	8.1	0.0	0.8	6.4	0.0
Research organizations under the contract	17.5	4.8	4.8	0.7	0.8	1.6	0.0
Universities, Higher Education Institutions	16.2	4.1	8.1	0.9	0.0	0.0	0.0
Techno-parks	12.8	2.1	6.1	0.0	0.0	0.9	0.0
Scientific research institutes, design bureaus	12.1	4.1	5.1	0.0	0.0	1.6	0.0
Organizations – investors	11.5	3.1	6.2	2.1	2.4	4.0	0.8
Organizations – sponsors	9.2	4.1	2.0	0.0	1.1	1.9	0.0
State organs	9.1	0.0	4.1	0.0	0.0	0.0	0.0
Chambers of commerce and industry	7.7	2.9	2.9	0.8	0.0	0.0	0.0
Special training organizations	6.3	4.2	2.1	0.9	0.0	0.0	0.8

The data is informative. The behavior of the Russian firms is characterized by a high closeness (autistic features). From the whole number of firms surveyed by us 29.4% of firms do not discuss problems of the introduction of the new technologies or new products with anybody at all. 28.5% of firms discuss these problems only with one or two subjects from the numerous options named above. 28.3% of firms discuss these problems with only 3–6 subjects. A slightly more favorable variant of a quantitative range of advising and training partners – from 7 up to 20 – is characteristic only for 11.9% of firms. At last, only 1.8% of firms involve maximum wide network of 21 and more subjects in such partnership. The data are shown in Table 7.2 of Appendix 3.

For the overwhelming majority of the Russian firms and their managers most essential teacher/trainer is other firms – their direct buyers and suppliers. However,

there is, certainly, a significantly large share of firms which do not at all address other firms – buyers; the number of such firms was 37.6% from the whole number. The consulting services market is developing in the region investigated. Such services are indeed available. For example, services in Scandinavian, European consulting are easily accessible to firms functioning in St. Petersburg and the Leningrad Region. However, the intensity of utilization of their services is more than three times lower, in comparison with utilization of firms – consumers and firms – suppliers. Even less often firms address/contact special training organizations and state organs. In the whole sample, a total of 80.7% of firms do not address/contact special training organizations at all.

Universities and research organizations working under contract act in world practice as fairly popular partners of firms in the introduction of innovations. However, in modern Russian conditions they also are only at an initial stage of development of their information and partner functions at introduction of innovations by firms. Given the whole sample, 88.1% of firms have no contacts with universities, and 85.3% have no contacts with the research organizations named above. Investors, as a source of information and consulting help, at the introduction of innovations act as a specific subject, since not every firm has an investor. But if the investor exists, as a rule, it declines to act as an active subject/participant during the introduction of innovations. Of the whole sample 87.2% of firms have no contacts to an investor.

Techno-parks and sponsors in the modern advanced economy, naturally, act as popular subjects assisting firms to introduce both technological and product innovations. In present Russian conditions the share of firms having contacts to them is hardly noticeable. Of the whole sample 92.7% of firms have no contacts with the sponsor and 89.9% have no contact with techno-parks. Such data is not optimistic, but causes no surprise. Firms of energy and raw materials of the country mainly have investors and sponsors, to some extent the same is true of IT firms. For firms in other branches the investment climate is still not favorable. Regarding contacts with techno-parks, so far those individual cases of techno-parks operating in St. Petersburg and the Leningrad Region, have played an extremely modest role in the business life of the region.

Chambers of commerce and industry, and also scientific research institutes and design bureaus are at the end of the list of subjects, which could give information or act as original teachers/trainers for firms during the introduction of innovations. Their training, information influence is hardly discernible. Of the whole set 90.8% of firms have no such contacts to chambers of commerce and industry; 7.3% of firms have contact with such chambers on only one level of the regional organization of economy; only 1.8% of firms have contact with such chambers on two levels of the regional organization of the economy. A characteristic feature of the present condition of the Russian economy is shown by the intensity of contacts of firms with scientific research institutes and design offices. About two decades back these organizations were the basic initiators of innovations in firms; no significant innovation was introduced without the participation of a scientific research institute. And now 90.9% of firms have no contacts with these organizations.

Training influence of western partners

The extent to which foreign partners act as original teachers/ trainers for the Russian managers is of special interest. The empirical data received by us show that 82.2% of all firms have no contacts to foreign partners at all concerning the introduction of technological or product innovations. 9.3% of firms have contact with one such foreign partner, 3.9% of firms have contact with two such partners, 2.3% with three such foreign partners. Although Russian firms have very few western partners, among those few partners the greatest part are buyers and suppliers. There are also appreciably more suppliers from the west than buyers. Accordingly, suppliers act as the most active western teachers for the Russian managers: the total number of Russian firms supported by western suppliers in the introduction of innovations is 13.6%.

In second place in activity of training influence on the Russian managers come western consultants. From the whole set of firms 7.2% are supported by western advisers during the introduction of innovations. Accordingly, 92.8% of firms appear outside such a training process. The third place in the activity of western training influence on the Russian managers is divided between western buyers and western investors. Of the firms surveyed 95.2% had neither this, nor any other kind of influence.

Networks of subjects exercising training influence over managers

A question of special interest to us is what kind of networks of organizations fulfills the role of informal colleges today in Russian industry? To identify such networks a factorial analysis was conducted of the list of organizations which can be qualified as trainees during introduction of innovations. As Table 8.3 shows, the analysis has revealed four distinct networks.

Table 7.3
Networks of organizations which train managers at the workplace during the introduction of innovations

Organizations – partners in introduction of innovations	**Factors**			
	1	2	3	4
Firms – buyers	,268	,339	,758	-,118
Firms – suppliers			,899	
Consultants/Advisers	,794		,226	
Research organizations under contract	,839			
Universities, Higher Education Institutions (HEI)	,802			-,161
Techno-parks	,803		-,175	
Scientific Research Institutes	,379	,390		,455
Investors	,837			,229
Sponsors				,851
State organs	-,114	,847		
Chambers of commerce and industry		,878		,203
Special training organizations	,630	,534		-,214

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged on 5 iterations.

The network allocated by factor 1, can be named a ‘high level network’, a network providing the creation of high technology innovations. The organizations and establishments specializing in the manufacture and transfer of scientific production actively participate in creation of high-tech innovations. Such organizations are the research organizations under contract, universities, HEIs, techno-parks and special training organizations. High-tech innovations especially require essential investments; therefore such parties as investors also serve as the integral element of the given network. These networks are characteristic of the IT sector, space and aviation, biotechnologies and certain others.

The second type of network of the organizations assisting firms with information, and managers with training, can be called an ‘average-level network’, the network which carries out previously acquired engineering projects. Therefore the stress here falls on state support. This network includes the state organs, chambers of commerce and industry and, to a lesser extent, the special training organizations. Today such networks are characteristic especially of firms in the wood industry, shipbuilding and mechanical engineering. Thus, it becomes clear that in this case this type of network is not about the profound innovations demanding special new research or new design decisions.

The third type of training networks can be named ‘low level networks’. Within the framework of these networks training is implemented by buyers and suppliers. Such training networks are characteristic for firms in the food-processing industry, for low-tech firms of the petrochemical industry, and for light industry. Such firms in today’s Russian conditions require for their survival more likely the expansion of client networks of consumers and suppliers than major technological innovations. Therefore their need for serious and widespread contacts to the scientific organizations is small.

The fourth type of training networks is those of the lowest level. Here there is the training influence of the sponsors, amplified by the influence of scientific research institutes. Such networks today frequently include firms dealing with the development of methods for the repair maintenance of equipment. Here the task of a scientific research institute will be more likely to prolong the life of existing equipment, than the creation of new equipment. Many regional enterprises for water and power and in the iron and steel industry are involved.

Thus training of managers at the workplace in modern Russian firms is in rather poor condition. Its dynamics for the period of 2000–2004 is poorly expressed. Networks of the economic and social parties exerting training influence over managers are rather undeveloped. It certainly essentially reduces the learning efficiency of managers in specialist training institutions as well. Even when business schools, MBA courses, special training programs, etc. are represented at a high-level, the low level of real functioning of firms makes such education of managers in a sense “excessive”.

7.2. Preconditions for the further development of informal training of managers

In addition to the organizations earlier considered, in direct contact with which there is informal training of managers, the firms are in an institutional environment, in an environment of a wide spectrum of organizations and establishments of infrastructural support for the functioning and development of firms. These environmental organizations also create or could create important preconditions for the effective informal training of managers. The intensity and nature of the contact of firms with the named organizations and establishments essentially depends on activity on both sides, and in many respects is determined by the level of openness achieved in society and in its economic life. In the present research an attempt is made to consider those conditions and preconditions of development of processes of informal training generated in the St. Petersburg Region.

To ascertain the preferences of the firms and their managers regarding the actors of the social environment, 40 were selected where the level of openness definitely shows differences between the managers. They are shown in Table 7.4 of Appendix 3. The data on the degree of trust was subjected to a standard procedure of factor analysis with a rotation method, Varimax with Kaiser Normalisation, see Table 7.5. As a result, twelve factors were allocated, i.e. 12 original centers of gravity, with an attraction for those actors in the social environment and increased or reduced trust which 'defined' a concrete type of firm. The combinations of actors/subjects in which trust is shown, are networks for the informal education of managers. We shall consider them in descending order of factorial loading: from maximal – to minimal.

For firms in the first group can be attributed to the type 'oriented to the central region of the country, to Moscow'. Firms of this type are characterized by 'a network of trust' consisting of nine elements: Moscow banks – Moscow insurance companies – western banks – western insurance companies – International Monetary Fund (IMF) – private security companies – banks of St. Petersburg – the Ministry of Internal Affairs of St. Petersburg – Commercial and Industrial Chambers of the Western Countries. These structures are perceived by the managers as the most influential and they invest in them. They realise that the structures named above have sufficient resources to absorb or to neutralize similar structures in St. Petersburg. Moscow's business structures are considered by the managers to have an adequate infrastructure. Accordingly, insurance companies (0.836) and Moscow banks (0.851) are the ones that managers trust the most. The managers of such firms are also sure that foreign capital is a positive factor in their development. Therefore, the arrival of European insurance companies, from their point of view, would be a positive phenomenon (0.554). Accordingly, the activities of the International Monetary Fund (0.483) and the Western Commercial and Industrial Chambers (0.318) are positively perceived. Their closeness to the federal authorities allows them to develop closer connections with the structures that represent the verticality of the authority – e.g., law enforcement agencies. Therefore, they trust more than others the Ministry of Internal Affairs (0.345) and also the private security

Table 7.5
Social networks of industrial firms

Subjects of a social environment	*Factors*											
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
UnIndBus	–	0.443	–	0.630	–	–	–	–	0.257	–	–	–
UnSESM	–	0.696	–	0.423	–	–	–	–	–	–	–	–
TradeUni	–	–	–0.342	0.308	–0.164	–	–	–	–0.284	–	–	–
Church	–	–	–	–	–0.148	–	–	–	–	–	–	0.825
ConsProt	–	0.405	–	–	–	–	0.463	–	–	–	–	–
BusDevF	0.297	0.691	–	–	–	–	–	0.289	–	–	–	–
BancrAgc	–	–	–	0.443	0.242	–	–	0.315	–	–	–	–
CityPrptM	–	–	–	–	–	–	–	–	–	–	0.865	–
EcDevC	–0.203	–	–	–	0.329	0.436	–	0.396	–	–	0.429	–
InternAffr	0.345	–	0.302	–	–	–	–	–	–	–	0.539	–
CityGvmt	–	–	0.816	–	–	–	–	0.164	–	–	–	–
CityGvnr	–	–	0.794	–	–	–	–	–	0.200	–	–	–
CityAsmb	–	–	0.216	–	–	–	–	–	0.761	–	0.234	–
MosBank	0.851	–	–	–	–	–	–	–	–	–	–	–
WesBank	0.855	–	–	–	–	–	–	–	–	0.193	–	–
IBRD	–	–	0.506	0.310	–	–	–	–	–	0.447	–	–
IMF	0.483	–	0.309	0.319	0.336	–	–	–	–	–	–	–
MosIns	0.836	0.261	–	–	–	–	–	–	–	–	–	–
WeInsurC	0.554	–	–	–	–	–	–	–	–	0.525	–	–
WeChmb	0.318	–	–	–	–	–	–	–	0.306	0.628	–	–

enterprises (0.470). It is natural that the orientation of such firms to Moscow structures gradually puts them in some confrontation with the structures of the administration of the regional economy. Therefore, a firm belonging to the type oriented to the structures of the central region correlates negatively with trust in the Committee for Economic Development, Industrial Policy and Trade of St. Petersburg (-0.203).

The second type of firms can be said to the 'focused on the accelerated technological development'. The firms in this group are characterized by a network of seven elements: the St. Petersburg fund for Business Development – the Test of St. Petersburg – the Bureau of the Strategic plan of St. Petersburg – the Union of Scientists, Engineers and Experts of Manufacture of St. Petersburg and the Leningrad Region – the Union of Industrialists and Businessmen – World Trade Organization (WTO) – the Society for Consumers' Protection. Firms in this group focus on the prevalence of high-technology manufacture. The managers of these firms are, to a sufficient degree, sure about their competitiveness in the international market. Therefore, they support the introduction of Russia into the WTO (0.744) more actively. They connect their activity very closely with organizations which support Russian science. The noticeable organization among them is the Union of Scientists, Engineers and Specialists of Manufacture (0.696) and also the Union of Industrialists and Businessmen (0.443). Hi-tech firms, naturally, have closer relations with the Test of St. Petersburg (0.453) as they urgently require serious certification for their production. Their activity is supported by the Strategic Plan of St. Petersburg. Therefore, they have a good basis for their trust in this organization (0.576).

The third group of firms can be referred to as 'focused on the economic independence of the region'. They are characterised by 'the network of trust' of eight subjects: the government of the city – the governor of the city – the *International Bank for Reconstruction and Development (IBRD)* – the President of the Russian Federation – IMF – the Chamber of Commerce and Industry of St. Petersburg – Arbitration – the Department of Internal Affairs of St. Petersburg. The managers of these firms understand that such independence from the structures of Moscow can be provided only by the support of their own more reliable support centers: the West and the President of the Russian Federation (0.383). The required independence is supported by contacts with the western structures. Therefore, they highly appreciate IBRD (0.506) and IMF (0.309). They are also, to some extent, supporters of the WTO (0.292). Due to the tight closeness with the governmental structures of the region, they expect that in the event of conflict with their competitors or unreliable partners, the arbitration will refuse to protect them (0.304). The city court 'will also take into account' their adherence towards regional authorities. They are firmly focused on the government of the city (0.816) and the governor of the city (0.794). It gives them increased trust in the Department of Internal Affairs of St. Petersburg and the Leningrad Region (0.302). These are basically firms of underlying 'liberal' orientation, appreciating the spirit of innovation, the spirit of the West in itself. Therefore, for them a certain negativism is a characteristic concerning the trade unions (-0.342).

Firms of the fourth group can be referred to as the 'traditional type of the enterprises', or as the type of the enterprises dependent on the federal center.

Firms of this type are characterized by a network of nine subjects: the Government of the Russian Federation – the President of the Russian Federation – the Union of Industrialists and Businessmen of St. Petersburg – Agency on Affairs of Bankruptcy – trade unions – the insurance companies of St. Petersburg – the Union of Scientists, Engineers and Specialists of St. Petersburg and the Leningrad Region – IMF – IBRD. These are basically large industrial firms that have, to a significant degree, retained some features of federal state ownership. Their functioning depends, first of all, on corresponding decisions of the Russian Government (0.492) and the President of Russia (0.435). Since the managers of these firms feel they will be protected by the government of the country in case of possible infringements of their interests, they have an additional basis for feeling safe in the reciprocal relations with the rather low power/low capacity insurance companies of St. Petersburg (0.814), and even the rather weak banking system of St. Petersburg (0.247). It is interesting to note that the managers of large industrial firms, contrary to views sometimes expressed, have no antipathy towards support from the side of the western capital. They trust the International Monetary Fund (0.319) and the International Bank of Reconstruction and Development (0.310) to an appreciable degree.

Firms of the fifth group can be referred to as 'absorbing firms'. These are firms whose competitive strategy includes, as a component, the realization of the bankruptcy of enterprises. They are characterized by 'a network of trust' of eight actors: the City Court – the State Duma – arbitration – the government of the Russian Federation – IMF – WTO – the Committee of Economic Development of St. Petersburg – Agency on Affairs of Bankruptcy. For success for absorption, support by arbitration (0.642) and by the City Court (0.762) is especially important to such firms. Managers, as a rule, obtain this support from those organizations. In this activity it is also important for them to outstrip contenders in the knowledge of new legislation accepted, and sometimes to lobby for legislation significant for them. Therefore, contact with the State Duma, for them, is especially intensive (0.728). This concern is also present in the government of the Russian Federation (0.343). In this activity they need the support of the Committee of Economic Development of St. Petersburg (0.329) and the support of the territorial Agency on Affairs of Bankruptcy (0.242). The trade union organisations of the firms subjected to bankruptcy and the regional Federation of Trade Unions are, naturally, inclined to counteract such firms – initiators of bankruptcies. Therefore some negativism towards them (-0.164) is apparent.

It is characteristic for the firms of the sixth group to belong to a 'security service'. These firms basically produce electronic devices for the security signal system and also observation devices for security firms. 'The network of trust', relevant to their sphere of specialisation and represented by six subjects, includes: state security enterprises – private security enterprises – the Office of the Public Prosecutor of St. Petersburg – arbitration of St. Petersburg – Committee of Economic Development of St. Petersburg – the Test of St. Petersburg. The increased trust in both the state security enterprises (0.822) and the private security enterprises (0.661) is typical for the managers of such firms. Due to their type of activity they have positive representations of the activity of arbitration (0.448) and the Office of the Public Prosecutor (0.473). Their production

is developed with the participation of the innovation centres of St. Petersburg (0.292), and is certified by the Test (0.374). Their activity should be supported by maintaining the Committee of Economic Development of St. Petersburg (0.436).

Firms of the seventh group, as well as the previous group, are specified by 'branch specialisation'. The selection of social partners in their case is dictated by the fact that they belong to the food processing industry. Accordingly, for them the network of five subjects is characteristic: the Society for Protection of Consumers – the Test of St. Petersburg – the tax authorities of St. Petersburg – regional mass media – the all Russian mass media. The food companies are the most interested in advertising their production. Therefore, for their managers it is important to build relations with regional mass media (0.830) and the national mass media (0.571). Such enterprises are frequently rather transparent for checks by tax authorities; therefore their evaluation of these authorities is rather favorable (0.418). Their production demands certification, therefore the test is also included in the contact network (0.424). The Society of Consumers (0.463) is in direct contact with the food companies.

Firms of the eighth group can be attributed to the type 'subscribing to the Chamber of Commerce and Industry of St. Petersburg'. Accordingly, they are characterised by a 'network of trust' of six subjects: the Chamber of Commerce and Industry of St. Petersburg – the banks of St. Petersburg – the President of the Russian Federation – the International Commercial Arbitration – Committee of Economic Development of St. Petersburg – the Agency on Affairs of Bankruptcy. This is a rather new phenomenon for St. Petersburg. A new 'centre of gravitation' – the Chamber of Commerce and Industry of St. Petersburg is formed. It is supposed to generate a special investment center with authority in Europe. Firms regularly using the services rendered by this chamber value it highly (0.694). Accordingly, banks, which are ready to support the creation and functioning of the new investment centre, also value it highly (0.567). One of the tasks called for by a new alliance with the consent of the Committee of Economic Development of St. Petersburg (0.396) – is the acceleration of bankruptcies of those enterprises which are not sustainable. Accordingly, the Agency on Affairs of Bankruptcy is perceived positively (0.315) by managers supporting the Chamber of Commerce and Industry of St. Petersburg. The St. Petersburg Fund for Development of Business, naturally, belongs to the alliance of initiators of 'updating' or 'restructuring'. Therefore, trust in it correlates with the gravitation of a firm to the mentioned eighth type (0.289).

Firms of the ninth group can be said to be 'oriented in techno-parks'. Such firms are characterised by 'a network of trust' of four subjects: Innovation Centre of St. Petersburg – the City Assembly of St. Petersburg – the Chambers of Commerce and Industry of western countries – the Bureau the Strategic Plan of St. Petersburg. This group is basically formed by small enterprises created in the technical colleges of the city, and cooperating closely with the innovation centres (0.729). For their formation, the support of one more centre of influence, concrete deputies or deputy groups of city legislative assembly was significant. Therefore, the orientation towards the City Assembly (0.761) is high. These are technologically and economically prospective

firms which is why they are essential for the Strategic Plan of St. Petersburg (0.301). Since they are small and no traditions of cooperation with trade unions have been formed, they are characterized neither by the absence of the initial trade union organisations nor by connections with the regional organization of trade unions (-0.284). As their production, according to a plan by the founders of the firms, should be rather competitive with the western equivalents, they endeavor to establish relations with the Chambers of Commerce and Industry of foreign countries (0.306). In some cases their scientific and technical development has chances of being maintained by TACIS Program. Therefore connections in this direction are actively supported (0.313) here.

The tenth type of firms is mainly 'firms under foreign ownership. 'The network of trust' of four actors is characteristic to such firms: the Chambers of Commerce and Industry of the Western Countries – the international commercial arbitration – the western insurance companies – IBRD. Managers of these firms naturally work in close contact with the relevant chambers of commerce and industry (0.628) and the insurance firms (0.525). For this reason they perceive the practice of activity of the Russian Regional Tax Bodies to be very different from what they have are to in their own country (-0.593). In a modern crisis in Russian conditions when they contact the Office of Public Prosecutor, they quite often do not find the understanding that they expect (-0.444). Naturally, if more serious cases arise, they surely rely on the International Commercial Arbitration (0.531).

For firms of the eleventh group it is typical that they are undergoing a 'processes of restructuring'. Accordingly, they are included in a network of four actors: the St. Petersburg Committee for City Property Management – the Committee for Economic Development of St. Petersburg – the Ministry of Internal Affairs of St. Petersburg – the Government of the Russian Federation. Participation in restructuring, as a rule, is initiated by programmes of the Committee for Economic Development of St. Petersburg and the St. Petersburg Committee for City Property Management. Participation in such programmes is encouraged by certain privileges. Therefore orientation towards interaction with the St. Petersburg Committee for City Property Management is rather high (0.865). Contact with the Committee for Economic Development of St. Petersburg is also intensive (0.429). Restructuring touches the interests of those actors used to renting premises of the companies, part of the fixed capital. Therefore, quite often it is necessary to use the influence of the Ministry of Internal Affairs in order to 'break off the existing economic connections' and it then proceeds in a fairly civilized way (0.539). The private security enterprises quite often act in such situations not as peacemakers but more likely as catalysts of conflict, which is inevitable during restructuring. In fact, the higher the level of this conflict is, the higher the level of income of the security firms. Therefore, the estimation of trust towards them is more likely negative (-0.239).

Firms of the twelfth group are characterized by a network of three actors: Church – the Office of the Public Prosecutor of St. Petersburg – the all-Russian mass media. These are mainly small or even family businesses, which make souvenirs, costume

jewellery, i.e., simple products. Relations in small collectives of such firms are based mainly on emotional sympathies and antipathies. Therefore, it is not surprising that the 'owner' of such a firm is perceived in the eyes of the 'employees' to have influence and authority over the authority of the church instead of the state institutions. Accordingly, the orientation of such managers towards the church is the most positive one (0.825). The simple production of such small companies does not require a certification at all; the orientation towards the Test (-0.344) is therefore minimal. The orientation towards innovation center (-0.208) is also minimal. Such small companies appear to be the most defenceless in the face of racketeering which is becoming common in Russia. It is obvious that they try to obtain protection from the Office of the Public Prosecutor (0.463), but the city court is not yet capable of protecting them to the degree that they expect (-0.205).

In the research our task was to find out which of the supporting infrastructural networks are most relevant to the models of sustainable development i.e., which of them are more characterised by higher corporate responsibility. Three classical parameters were applied for this purpose in the questionnaire: the degree to which the company management achieves a high level of ecological compatibility of manufacturing, the degree to which a company provides friendliness of cooperation with domestic and foreign manufacturers, and the degree of humanity of labour relations. The first parameter was a result of direct estimation by a manager of the degree of the ecological compatibility of his company. The indicator for the second estimation was degree of utilization of the TQM system, since the ideology of this system is based on principles of friendly integration of commodity producers into the world market. An indicator for the third estimation was that by managers: of the extent to which their company helps ordinary employees to become more and more communicatively competent. Due to the growth of such competence they understand their own roles in the company better, likewise the chances and prospects for development. Such communicative competence of employees and managers of firms is accumulated in the process of informal education in a firm, the process of education at the workplace.

The factor of rank correlation of each parameter with a characteristic, specifying each of the twelve supporting infrastructural networks named above, has been calculated. As such a specifying characteristic, the leader of factorial loading, which most strongly 'pulls together' other characteristics included in the factor, was chosen. Accordingly, the estimated factors of rank correlations only indicate tendencies. But these tendencies are expressive. The analytical data is shown in Table 7.6.

Table 7.6
Characteristics of firms belonging to different types of networks, rank correlations

Types of networks	Ecological compatibility of firms	Activity of application of TQM	Informal education of employees
1. Oriented to the central region of the country, Moscow	0.180	0.396**	0.212
2. Oriented to accelerated technological development	0.280*	0.360*	0.347*
3. Oriented to economic independence of the region	0.033	0.163	0.308*
4. Traditional companies, dependent on the federal center	0.078	0.057	-0.017
5. Absorbing firms	-0.009	-0.043	0.077
6. Security service equipment companies	0.099	0.037	0.018
7. Food processing companies	0.116	0.260	0.253
8. Subscribing chamber of commerce and industry of St. Petersburg	0.028	0.232	0.351**
9. Oriented to techno-parks	0.013	0.231	-0.041
10. Firms in foreign ownership	0.249	0.107	0.164
11. Companies in the process of restructuring	-0.034	0.121	0.034
12. Small enterprises, including family businesses	0.362**	-0.031	0.025

* *Correlation is significant at the 0.05 level (2-tailed).*
** *Correlation is significant at the 0.01 level (2-tailed).*

According to our data, in modern Russian industry, a harmony of the aspects of the corporate responsibility considered has not yet been created. If any network of infrastructural support of the firms is characterized by rather high parameters of the responsibility in any concrete aspect, other aspects of responsibility appear less emphasized. This is characteristic of small companies including family businesses and of companies focused on the economic independence of the region. A favourable exception is the group of companies oriented towards accelerated technological development. Given all three attributes of corporate responsibility, this group is characterized by favourable tendencies. To some extent, this also applies to the group of companies oriented to the central region of the country, Moscow. Tendencies describing companies subscribing to the St. Petersburg Chamber of Commerce and Industry and companies oriented to the economic independence of the region are slightly less favorable.

The research has confirmed that even if the Russian crisis has not been overcome, openness and trust in actor of the infrastructural environment serves as essential social capital, since companies' leaders who have managed to construct relations of trust and support with actors of the external social environment do gain a real advantage – more varied and more modern management.

The kinds of social capital have been considered: bonding, bridging and linking (Wallac 2007, 29–54; Woolcock 2001, 1–17). Bonding provides internal unity of a

group, its isolation from 'external others'. Within the framework of the study in social capital 'bonding' is a contact, interdependence of managers within the framework of one firm (Coleman 1988, 95–120). Bridging, on the contrary, characterizes contacts to agents of an external environment, emphasizing on complementary functions (Putnam 2000). These are contacts of firm to a wide network of external partners, collaboration in innovation networks, contacts of Russian firms with foreign partners. Linking means the creation of relationships with actors 'upwards on a scale of ranks' (Woolcock 2001, 1–17). In our case, linking refers to the relationships of a firm with actors of the regional or federal administration.

No doubt networks of trust mainly coincide with networks of real connections which firms have either already generated for the maintenance of their success, or have started to form. It becomes clear that industrial firms are compelled to be selective regarding the actors of their social environment. If they have generated and use regularly services rendered by any concrete networks of contact and trust they, are thus apart from other networks of contact and trust. Thus, each of such types of trust networks reveals a concrete managerial strategy chosen by a concrete group of industrial firms.

Of the 12 types of networks listed above, the analysis has allocated three 'territorially specialised' types of trust networks, three types of managerial 'strategies' of industrial firms:

- oriented towards independence, relative self-sufficiency of the region (the third group of firms)
- oriented towards receiving the support of the federal center (the first group of firms)
- oriented towards cooperation with western structures (the tenth group of firms).

Besides these mentioned above, there is a rather natural, 'network selectivity' of firms, caused by the stage of a firm's economic development; when each stage of development is characterized by a specific network of trust. The analysis served to identify the following stages, which have given rise to networks of trust corresponding to those stages:

- a stage of traditional functioning of a firm (the fourth group of firms)
- a stage of extensive development due to absorption/takeover of other firms (the fifth group of firms)
- a stage of restructuring (the eleventh group of firms)
- a stage of technological development (the second group of firms)
- a stage of innovation development (the ninth group of firms).

The types of networks of trust of the eighth group of firms, gravitate to some extent towards the fourth and fifth stages. These are firms oriented towards cooperation with the St. Petersburg Chamber of Commerce and Industry. The motivation of such orientation of firms includes their aspiration to receive investments from foreign partners, and the Chamber Commerce and Industry is perceived by a large group of managers primarily as a prospective intermediary in attracting of investments. At the

same time, such hyperactivity in search of investments is more often an attribute of a favourable stage of development of a firm – a stage of technological updating.

Two other types of trust networks reveal features of firms' interests depending on the branch they belong to. Such specific features, most noticeably revealed in network selectivity, are characteristic of firms in the food processing industry (the eighth group of firms) and of firms producing equipment for security services (the ninth group of firms). To the same type of firms, it is possible to also attribute networks of trust characteristic of family firms and small enterprises (the twelfth group of firms). It is obvious that the influence of the level and structure of trust in managerial strategies is mainly revealed in the isolating types of trust networks named above: territorially specialised and specific to the stages of economic development of firms. Here, the characteristic feature of a strategy forcing firms to search for partner support from concrete actors of a social environment serves as a dominating factor. It is natural that some concrete details will characterize branch distinctions of firms, some will characterize various patterns of ownership, some the features of firms' sizes, etc. However, these details are not essential for revealing and describing the strategy of firms.

Regarding the managerial strategy of firms, the analysis shows that these strategies are formed essentially as a result of a specific strategy of the subjects of a social environment. In Russian conditions it appears especially essential regarding the actors of the territorial organization of a society. It once again proves that the level of trust could be raised by improving the contacts between regions and the federal center. The development of an economic and industrial policy of the country as a whole and its major regions could serve as an essential step towards the direction of harmonization of interaction of these social actors, and as a step towards improving the level of trust of managers of industrial firms in them. This effect will be even greater, if the formation of this policy is aimed especially at the harmonisation of the interests of firms and subjects of social environment in the widest sense of the harmonisation, or if it is steadily aimed raising the level of trust of the managers of the firms in their social and economic environment.

In other words, once the trust in management has proved to be significant social capital, capable of activating production, it would be expedient to aim at increasing trust and openness. Like any other kind of the capital, trust can enhance other values; it participates in processes of circulation and reproduction. Some forms of this capital become archaic, others appear prospective, giving new chances to the development of the economic and social life of the country and its regions. The analysis forms the basis of the attribute 'territorially diverse' network of trust in social capital that is becoming outdated. There is no doubt that on the way to overcoming the crisis of the Russian economy, the divergence of interests of the actors of the territorial organization of a society will be replaced their convergence and a relative harmony. Accordingly, 'territorially detached' networks of trust developed today will be replaced with a harmonized uniform network. To some extent, this process is already under way. Either in the networks focused on both receiving support from the federal centre, or in the networks focused on the economic independence of the regions, orientation

towards partnership with western structures is rather pronounced. This is natural, if the preference of internal and external conditions of integration processes develops further.

Some networks of trust which characterize former stages of development of firms, can also be identified as becoming outdated types of social capital. It definitely concerns two stages revealed by the analysis: the stage 'concerning traditionally functioning firm' (the fourth group of firms) and the stage of 'extensive development due to absorption/takeover of other firms' (the fifth group of firms). As industrial firms master new technologies more actively and become involved in innovation development, traditional functioning, orientation towards absorption of firms as well as specific networks of trust serving such a strategy will be relinquished. Note that corporate responsibility is better developed in those firms which are committed to accelerated technological development. In these companies, various aspects of this corporate responsibility are being revealed in the greatest harmony. Probably, this group of firms can act as an engine, which will involve Russian industry in international economic cooperation.

This research aimed to determine how informal training, growth of competence of workers and managers of firms are an essential characteristic of firms included in different infrastructural networks. It turned out that firms in three types of networks are really active concerning informal training. The question is, first of all, about firms which are included in the following networks:

- Subscribing to the St. Petersburg Chamber of Commerce and Industry
- Committed to accelerated technological development
- Committed to the economic independence of the region

The results are no surprise. Managers of firms aiming at economic and technological development can appreciate the usefulness of informal training, of enhancing the communicative competence of colleagues and other firm's employees. In addition, the management of the present St. Petersburg Chamber Commerce and Industry is also distinctly focused on acquiring techniques of innovation development of industrial firms.

Such constructive activity as effective informal training should be inherent in firms focused on techno-parks and on the development of innovative systems. However, firms which are truly oriented to innovational development are probably more clearly guided by the intensification of formal education. Managers of such firms have not yet appreciated that exchange of experience earlier accumulated by managers and other workers of firms can also render essential support to the innovational acceleration of firms' development.

Probably, in the following stages of the development of innovational systems in the Russian regions the majority of managers will come to understand that intensification of formal and informal training of managers is most conducive to innovation, as in this case the new experience of Russian managers will be more suitable for the updated technologies and for more modern management practices.

7.3. Efficiency of informal training of managers

Aspects of efficiency of informal training of managers

One of the most essential sides of efficiency of informal training of managers is the influence of training on the success of firms in which the managers trained are employed. So far the intensity of informal training influencing success of firms is not based on serious empirical research. A quantitative estimation of the influence is not yet possible. Basically indirect estimations of the degree of influence must be used. In our research the system of indirect estimation was applied regarding the influence of informal training of managers on firms' success. We applied two approaches. One of them directly and exclusively examines correlations of attributes describing the sample as a whole. The second approach was carried out in two steps. In the first step the classification of managers obviously focused on the maintenance and intensification of informal training of managers. In the second step characteristics are allocated to the classification enabling as to estimate the success achieved by each of types of managers in the firms in which they are employed.

First we consider the first approach. Here it is important to ascertain what aspects of the activity of a firm appear to be most geared to success, and what aspects appear to be responsive. To answer these questions, we chose five aspects of the success of firms' activity. Thus, we consider the 14 parameters listed in column 1 of Table 7.7. The aspects of firms' success chosen for the research are standard: the degree of the success of the activity of the personnel, the level of manageability (possibility to manage the personnel), the level of technical-technological advancement of companies, the reliability of the firm's connections with partners and, finally, the level of market success of firms. In the questionnaire the success of the activity of the personnel was estimated on four parameters: the degree to which the personnel promoted the development of the firm (line 1), the degree to which line managers promoted the development of the firm (line 2), the level of personnel performance (line 3), and the level of conflicts (line 4). The level of manageability of firms was shown by two parameters: the adequacy of the structure of the management of a company (line 5) and the activity of a firm in the improvement of the quality of management (line 6). The level of technological advancement of firms was measured by the firm's skill to reduce production costs more effectively than its competitors (line 7), the degree of quality of production (line 8), the speed of the development of new products (line 9), the intensity of investments of companies into research and development (line 10). The level of reliability of connections of firms with partners was ascertained by an estimation of the business reliability of the firms' partners (line 11) and the activity of the use of external sources of financing (line 12). Finally, the level of the market success of a firm was ascertained by the success of gaining exclusive positions in the regional market (line 13) and the rates of capturing new markets (line 14).

Table 7.7
Classification by firms of their social capital and firms' success, rank correlations

Success indicators	Means of increase of the social capital, used by firms								
	Ecological compatibility of production	Support of regional develop-ment	Charitable activity	Develop-ment of connections of specialization	Development of connections of cooperation	Growth of structural reflection of employees	Growth of individual reflection of employees	Organization of weekends for employees	Celebrating holidays together with employees
1	2–8	3–2	4	5–3	6–7	7–4	8–5	9	10–6
1. Size of contribution of ordinary personnel to success of firm	0.247*	0.229	0.082	0.140	0.220*	0.251*	0.254*	0.188	0.167
2. Size of contribution of line managers to success of firm	0.122	0.037	0.039	0.147	0.046	-0.011	0.041	0.115	0.238
3. Personnel performance	0.157	-0.075	0.056	0.082	0.228*	0.092	0.169	0.087	0.194
4. Adequacy of structure of management	0.099	0.220	-0.079	0.086	0.151	0.201	0.157	0.053	0.154
5. Speed of improvement of quality of management	0.387**	0.438**	0.355**	0.245*	0.387**	0.440**	0.498**	0.142	0.220
6. Success in price competition	0.201*	0.090	0.048	0.085	0.177	0.254**	0.301**	0.054	0.113
7. Speed of growth of quality of production	0.361**	0.293*	0.286*	0.182	0.295**	0.407**	0.469**	0.166	0.248
8. Intensity of updating of production	0.380**	0.162	0.430**	0.395**	0.515**	0.452**	0.485**	0.402**	-0.017
9. Intensity of research and development	0.133	-0.037	0.290*	0.220	0.280**	0.262*	0.239*	0.343**	0.065
10. Reliability of business partners	0.252*	0.074	- 0.042	0.061	-0.027	0.167	0.128	-0.043	0.138
11. External sources of financing	0.414**	0.174	0.436**	0.440**	0.306**	0.251*	0.341**	0.319**	-0.194
12. Achievement of exclusive positions in the market	0.220*	0.157	0.332**	0.196	0.364**	0.188	0.320**	0.249*	-0.194
13. Speed of gain of new markets	0.276*	0.157	0.241*	0.329**	0.387**	0.414**	0.411**	0.324**	-0.113

** *Correlation is significant at the 0.01 level (2-tailed).*
* *Correlation is significant at the 0.05 level (2- tailed).*

In the same way attributes were grouped enabling us to quantitatively estimate the importance of the social capital which a firm aspires to generate both in its social environment, and inside the firm, gaining the trust and support of its own personnel. It is obvious that if the firm values social capital, it will make real efforts to increase its own usefulness to the external and internal social environment: for the region as a whole, for the business partners and also for its own personnel. We used these three groups of parameters in our analyses. Thus, the following three parameters indicate the value of social capital for a firm which it creates in the region: the level of ecological compatibility of its production (column 2), readiness to allocate own resources for solving actual problems of the development of the region (column 3), and the activity of participation of a firm in charity (column 4). Accordingly, the value of social capital, created by a company in contact with its business partners and competitors, is measured by two parameters. The first is the activity of such expanding of specialising own production, as a result of which the firm gains an opportunity to fruitfully cooperate with former competitors, i.e. replaces exclusiveness of the competitors with the complementariness of the partners (column 5). The second parameter is the activity of expansion of traditional cooperation of firms: 'Let partners make such products for us, which our firm makes either less well or at a higher cost (column 6). And finally, the value of internal social capital, such as greater trust of the personnel in the firm and in its management, such as the better identification of workers with the goals and mission of firm, is measured by four parameters. The first of these is the activity of a firm in 'growth of individual reflection of own employees', in the understanding of these employees of their own roles in the firm, the understanding of their own chances of professional growth and the growth of income (column 8). The second is the activity of a firm in 'the growth of structural reflection of employees', in their understanding of the functional roles of various divisions of a firm, in the understanding of the overall strategy of a firm (column 7). The third and fourth attributes are well-known methods of the companies for improving human relations among employees: 'activity of a firm in organizing recreational and weekends evenings for the personnel' (column 9), 'activity of the firm in organizing the celebration of birthdays of employees' (column 10).

The two attributes, describing the internal social capital of the firm are especially important from the point of view of the logic of the present research, because they in a sense characterize the essence of informal training. Both of these attributes express an essential category – a level of subjectness of workers; and regarding the personnel as a whole they are able to reveal the subjectness of the personnel as a whole (see for instance, Blom et al 2004; Blom et al 2005). The growth of individual reflexivity of workers is an increase in the understanding of each worker of his own role in the organization, understanding the possible strategy for him to live in this organization. The higher the communicative competence of workers, the higher the knowledge of each of them about the role which everyone plays in firm as a system, the more effective is the activity of firm as a whole. Certainly, this refers to "clean/transparent" firms, which engage in exclusively lawful business. Otherwise, the growth of the

individual and structural reflection of workers, their growth of subjectness will create the most serious problems for the firm and its proprietors.

In order to enhance the workers' understanding of their role in the firm, it is also important that they should understand the roles and functions of various divisions of their firm. This refers to the increase of the structural reflection of workers, increase of understanding among workers of the role of various divisions of the organization for the success of firm as a whole. During of the survey the interviewers frequently came across cases of active non-acceptance of some practices by managers. Rather categorical opinions were expressed: it is inexpedient for managers to give ordinary workers information on the functioning of various divisions of the firm. It may cause excessive curiosity, involve workers in constant debate about what is expedient in their opinion in improvements in firm, and thus, distracts from the performance of immediate tasks. Several managers expressed the opinion that such discussions are the most essential part of real informal training in the firm, the training of managers at the workplace.

Accordingly, the most significant hypotheses of the present research have been connected with two parameters of the development of the informal training of managers in the firms researched. The assumption was important that in those firms inclined to support and develop the individual and structural reflection of workers, serious attributes of greater market success would also be identified.

The empirical data in Table 7.7 are conclusion. Firms with high social capital are indeed more successful on practically all parameters of success considered in the research. The ordinary personnel of firms in an appreciable degree increases its contribution into the development of the firm if the firm develops the individual reflection of employees, i.e. really gives the employees an understanding of their own roles and chances for career advancement in the firm (0.254), and if it opens to the employees the functioning mechanism of the firm as a whole and its separate divisions (0.251). Apparently, opportunity for openness might be typical to those firms, which have an increased ecological compatibility (0.247), actively cooperate with other firms (0.220) and participate in programs for solving actual problems of the region (0.229).

It is interesting to compare the contribution of the personnel in general with the development of the firm with the contribution of line managers. According to the data in the table the contribution of line managers depends to a lesser degree on the extent to which this firm is active in increasing its own social capital. It turns out that line managers have appreciably fewer opportunities to manoeuver, to make their contribution more active in response to the increased favour of this firm towards them, or conversely to reduce their contribution in response to the decrease of such a favour. Apparently, now line managers are compelled to work almost with self-criticism, having no opportunities to react to either positive and negative stimuli from top managers and the proprietors of firms. If a line manager relaxes his self-criticism, the firm has the opportunity to dismiss him quickly enough and replace him. An overabundance of experts with higher education was characteristic for the Russian labour market for a long period of time, and the percentage of unemployed HEI

graduates continues high. Accordingly modern firms only employ those line managers who exercise self-criticism, the others are soon dismissed.

A slightly different situation is characteristic for the personnel in general. It has a distinct freedom to manoeuver as seen in two such parameters as the level of personnel performance and the level of conflicts. Both these parameters are poorly correlated with the parameters of the interest of the companies in enhancing their social capital. Such 'weakness' also emerges given interlinking of 'force' of the increase in social capital of a firm with the increase of the contribution of the personnel to the development of firm, found out above. The comparison shows that the personnel is inclined to consider the development of their firm as a strategic direction of their own activity, and as a whole, rather steadily operate in this direction. But within the framework of such a strategy, the workers are quite often compelled to achieve either improvement in working conditions, or increases in wages, resorting to various tactical manoeuvers. The most habitual of these are a temporary downturn in personnel performance, soft and rigid forms of sabotage towards initiatives of the managers, and the increase and downturn of 'conflictness'.

Such an assumption also seems completely natural that firms with high social capital appear to have more effective management. This assumption was confirmed by the empirical data. It is clear that the quality of the management in such firms improves faster than in firms with low social capital. The fact that such interlinking of attributes is characteristic of the firms inclined to support programs of regional development with the own resources (0.438) is no surprise. In fact, the social and economic development of its region and the improvement of its investment climate create a valuable strategic base for the subsequent prosperity of a firm. The same also applies to the improvement in the organizational competence of the firm's personnel. If a worker starts to understand better his place and his chances in the firm (0.498), if the personnel start to better perceive the strategy of their firm and the functioning of its divisions (0.440) it, undoubtedly expands the controlled manoeuvrability of this firm and raises the quality of its management. Slightly less clearly it characterizes the activity of the firms in such market strategies as specialization and cooperation. However, it is here again noticeable that the active orientation of a firm towards cooperation (0.387) and specialization (0.245) pushes management towards greater refinement and higher quality.

The interlinking of the increase of own social capital and attributes of their technological development appears clearly. This is revealed in the ability of firms to master new production. It is only natural that such ability essentially depends on the extent of the adjusted business ties with business partners, on the activity of cooperation (0.515). It is the most intensively expressed correlation of attributes of all those considered in the given aspect of the research. The extent and variety of business ties of firms really serve as the significant social capital of the firm, creating solid advantages for it. It is strong competitive advantage, since it helps a firm in the most essential part – in the speed of restructuring for new product manufacturing, in rates of development of new kinds of production. If the firm were compelled to rely only on its own resources, the high speed of development of new production would be impossible. It is natural that for maximum fast restructuring for new product manufacturing a

high degree of personnel coordination of the activity of is necessary. Therefore, it is not surprising that the parameter of an individual reflection of the workers is rather high (0.485) and the parameter of their structural reflection does not lag behind (0.452). Certainly, the focus on constant updating of production demands significant expenses for the publicity of this new production.

The improvement of the quality of production is a much less risky activity for the firms. It does not demand such sharp and radical manoeuvers of a firm in comparison with updating of production. Therefore, the correlation with the attributes of interest of firms in social capital, showing the ambitions of these firms, is noticeably less. Firms focusing their efforts only on the improvement of the quality of production, also win because of the breadth of connections of cooperation with partners (0.295). This gain is not so evident, however, as it is typical for the firms focused on constant updating of the production. They are also obviously interested in communicatively competent staff, but this interest is also slightly more mildly expressed than in the firms placing emphasis on the novelty of products.

The situation of firms emphasizing the reduction of price of owns production looks essentially different. Certainly, this attribute can be counted only conditionally as describing the technical-technological development of firms. In fact, a reduction in price in modern Russian conditions more often occurs due to some simplification of production 'know-how'. In present conditions of a still unstable Russian economy, at least temporary orientation towards reduction of products' prices quite often happens to be rational. Accordingly, the ability and readiness of the personnel to be identified with such a strategy and tactics appears to be useful for such firms. Therefore the success of such orientation is promoted by increased structural reflection of workers (0.254), and their individual reflection (0.301). Low interlinking of this strategy with specialization of manufacture (0.085) and with cooperation (0.177) provides additional proof of the fact that in present conditions reduction in price occurs mainly due to relative 'simplification' of technologies.

Orientation to increasing research and development (R&D) is a significant parameter of the technical-technological development of the firms. But the degree of its relation to the increase of social capital is close to the values for orientation towards the improvement of quality in production. Firms expanding R&D certainly require the expansion of connections of cooperation with their business partners. Therefore, the interlinking of the mentioned attributes is marked (0.280). The introduction of the results of R&D into the real activity of firms occurs more successfully if the personnel are competent. This is also reflected in corresponding columns of the table. Achievements in updating production, in acquiring new qualities by this production also significantly require advertising actions, since it is shown in the activating of firms' contributions to charity (0.290).

Expansion of a firm's business partnership networks to the fullest degree correlates with the very nature or inner meaning of the social capital of a firm. Accordingly, it would be possible to expect that such parameters as the reliability of business partners and activity in attracting external sources of financing appear to be the most responsive

to the growth of the social capital of a firm. These assumptions were completely justified regarding the attraction of the external sources of financing.

It is also obviously possible to publicise the firm's increased ecological compatibility (0.414). The flexibility and activity of a firm in intensifying of specialization and the expansion of connections of cooperation also reduces risks and promotes the survival and development of the firm and provides it with a reputation in the eyes of potential and real financiers. Only firms emphasizing ecological compatibility of production notice a relative increase of reliability in business partners. This shows that in the Russian economy a sufficient level of stability has not yet been achieved.

This assumption is likely because in present conditions increase of social capital serves to resolve other problems. They are more likely offensive problems. This is testified by 12th and 13th lines of the table. These lines characterize the activity of the aggressive strategy of a firm in the market. For example, success in gaining a monopoly position in the regional market significantly promotes the expansion of connections of cooperation (0.364).

Even the more active position of a firm is gaining new markets for selling production. For this purpose the expansion of connections of cooperation (0.387) is expedient. It is also symptomatic that even such uncompromising – offensive strategies of firms nevertheless require an increase of success in a intensifying the specialization of manufacture (0.329). Even in the unstable conditions of the Russian economy it proved more favourable to avoid a head-on collision with the competitors seeking to bankrupt the contender, having replaced it with a rational division of the market niche between competitors and the specialization of each of them in the segment, which is more relevant and appropriate to the technological and organizational opportunities of this firm. In both cases ecological compatibility of manufacture promotes firms' success.

Thus, the study has confirmed that even in an as yet unresolved Russian crisis, different aspects of openness of firms towards external and internal contacts, readiness for collaboration are essential social capital. Firms whose managers have been able to build contacts, partnership with actors in the external social environment do have a real advantage – more diverse and more modern management. Accordingly, it is regrettable that as a whole the level of managers' openness towards contacts with the actors of the social environment, according to the research, turned out to be at a rather low level. Such lack of contacts among firms reveals an unresolved anomaly in Russian business life. In such conditions firms utilize social capital not so much to provide harmonious development for a probably wider network of partners, but more for the escalation of their own aggressive behaviour in the market, to obtain of exclusive positions, and to capture new markets. Accordingly, reliable business partners are still lacking.

At the same time, it is noticeable that such essential sides of activization of informal training as individual and structural reflection are important factors in the increase of efficiency of activity of firms, factors increasing of their competitiveness. It is interesting to note that the effectiveness of these sides of informal training appeared high in relation to the most essential aspects of competitiveness: 'intensity of updating

of production', 'speed and growth of quality of management', 'speed of growth of quality of production', 'speed of a gain of the new markets by a firm'.

In the Russian economy, the interest of Russian industry in innovation is only beginning: only separate advanced firms seriously undertake efforts to increase their innovational potential. For the majority of the Russian firms the nature of their orientations to factors of market success is conservative. Therefore, the majority of the firms mismatch two factors of success of firms: their innovativeness and auspicious conditions for processes of informal training managers, personnel of firms. Firms actively supporting informal training are not always so active in the development of innovation activities; and firms focused on innovation are not necessarily on the development of informal training. It is possible to state with confidence that as soon as Russian managers acquire knowledge and the practice of the creation of innovational systems, their orientation towards the development of informal training, training of personnel at the workplace will be more connected with the growing innovativeness of firms.

The empirical data shows that executives of Russian firms attachsignificant value to a high level of formal and informal education in their managers, their motivation for continuing education and their networks, trust between the actors of economic and social life, orientation of managers towards advanced experts when doing business. These findings raise an obvious question, why do these managers not invest significantly in increasing their social capital? The answer to this question is in a number of statements given by my interviewees. The key point of these remarks is that the majority of managers do not perceive themselves as creators of the socio-economic environment in which their companies operate. Most often they perceive themselves as victims of this environment, victims of rampant corruption among officials, victims of the general crisis of the instability of Russian economy burdened by a high share of its gray segment, victims of the increasing competition with Western companies. In such circumstances owners and top-managers are oriented only towards short-term plans for the survival of their firms, whereas plans for the strategic development plans look like utopia, in their eyes. Thus they consider social capital only as a useful resource for momentary use, which means that owners and top-managers are ready to utilize social capital, but not to build it.

8.
General preconditions for the further development of the formal training of managers

It is difficult to name an historical period when, or a country where, education has not or does not act as a condition of social stratification and a means of social mobility, a means of wide social integration and at the same time, a means of social differentiation and allocation of elites, etc.

Even a superficial glance at this aspect shows that education in many respects undergoes the same stages of development, the same crises, as society as a whole. In pre-crisis situations, in the process of the development of the crisis diverse functions of education often conflict with each other. Such conflicts are overcome by the further differentiation of the functions of education, by the diversification of its organization. As a result, the structure of "exchange" processes between an education system and a society, between education and the economy, between the education system and the social structure of a society becomes complicated. Therefore, processes which occur in the sphere of education essentially show the essence of changes occurring in a society. At the same time, they significantly influence the situation of a society in the future. In conditions of modern globalization the dynamics of education in any country have the same impact on this country as has the economic and social environment.

The foregoing is certainly true concerning modern Russia. The transformation of education, as a whole and in particular, the dynamics of education of managers reflects the essential changes taking place in the country. Regarding features of this transformation it is possible to predict the future of the country, the dynamics of its economic and social subsystems, and the drift of its position in the world market, as well as changes in the relationships with the international environment. The education of managers is one of the major elements of an education system because managers are the drivers of development of the industry and the economy of a modern country.

8.1. General characteristics of the transformation in Russian education

In describing the results of the analysis of the empirical data it would be logical to start with the predominating tendency identified. If there is a "predominating tendency" in the transformation of Russian higher education, including managerial education,

it unfortunately could be called *spontaneity,* uncontrollability. Russian society has not yet developed a clear strategy for the development of higher education accepted by significant social actors. Accordingly, the system of education in the Russian Federation has so far consciously failed to position itself, either on internal, especially in the international market of educational services. Evidently, this is connected to the fact that in the public consciousness the process of the development of the image, place and role of the country in the international community environment has not as yet been completed. In fact, as a consequence of having a planned economy for decades, the public consciousness in many respects is still based on the representation that the country leads and directs historical processed on the planet; that worthy of its historical mission the Russian education system is in fact the best in the world. This point can be well illustrated by the assumptions made by authors of the international research the "Russian education in the context of international parameters", carried out at the end of 1999 and the beginning of 2000. They write that up until now, the public consciousness of Russians is that "despite a low level of per capita income in Russia, its education system is on a level with the most advanced countries that have a high level of income" (Russian education 2002, 34).

The continued presence of this public consciousness prevents the acceptance of an objective reality developed today, as it contrasts sharply with the habitual representations. In fact, in the Human Development Index Russia already had an average characteristic of the third world countries, i.e. countries with a low income per head of the population. The average index for these countries was 78.4, for Russia it was 78.1. Among the 49 countries included in system of parameters of education, Russia on an index of human development occupies the 35th place. It is necessary to add that as this index is considered by the United Nations for 173 countries as a whole on the given parameter Russia in 2000 (Russian education 2002, 8) occupied the 60th position in the world, between Malaysia and the Dominican Republic.

The speed and the depth of crisis processes have resulted in serious disproportions which in essence can be explained by the following. Both the education systems of rich and poor countries have special problems in functioning; their own minuses. The reasons for the problems in education in poor countries are mostly well known. However, specific problems are characteristic for the rich countries. But the depth of the economic crisis in Russia and the speed with which it has overtaken the country has resulted in a paradoxical effect: here up to the beginning of 2000 original summation of the negative sides of both poles – poor and rich was generated. "In terms of the ratio of budgetary expenditures to gross national product, Russia meets the average indices typical for the countries with less than the mean and with low incomes (27% in Russia versus 29% in groups III and IV). However, in Russia only 11% of the state expenditure is spent on education, that meets an average indicator for the rich countries (12%) while in the countries of group III this parameter on the average is 17%. The total size of budgetary expenditures concerning gross national product in Russia is on the a level of the poor countries, while the share of budgetary expenditures allocated to education corresponds to the level of rich countries; this results in a relatively low level of state financing of education.

Along with other critical factors this affects the quality of education. Thus, according to the official data, in 1982 in all international competitions Russian schoolboys received the first prizes. In 1995 the Russian Federation received was ranked 8th or 9th. Now, according to the UNESCO analysis carried out in 65 countries of the world, the Russian Federation was ranked 50th–55th and appeared to be in the middle of the third – the worst – groups of the surveyed countries in terms of quality of education ("School Review", 1999, № 4).

General characteristics of the transformation of higher education in the Russian Federation

Confirming with the above in regard to the education system as a whole, the tendencies revealed in this area are extremely inconsistent. On the one hand, higher education is trying to adopt the educational standards of the advanced western countries. Significant efforts have been made here. On the other hand, the material support for education is now the opposite of that in the advanced countries. In the countries supporting the decision of the UNESCO Conference in Paris in 1988, education has absolute priority in the budget of the country. It should promote the development of creative kinds of activity. In the leading Western countries the share of investments from the national income for education ranges from 12% to 21%. Because of a severe economic crisis in Russia there has been the opposite situation: in 1967–1970 expenses for education accounted for 10–14% of the budget; in 1985 for 9–10%; in 1996 for only 3.7%. Moreover, while in 1990 the state allocated 6% of budgetary funds for the needs of science and education; in 1996 the budget for the whole of the country was only 10.2% of the entire budget for Russia in 1990 (Kuznetsov 1999). These data show how the level of incomes of teachers of HEIs and the technical equipment of educational process have declined.

At the same time, as seen in Table 8.1, Table 8.2 and Table 8.3 of Appendix 3, the number of students has been steadily growing, coming nearer to a situation where every second graduate of school will be a student of HEIs. Thus, in 2001 the number of graduates from high schools of the Russian Federation was approximately 2,171,000, and the number of students in HEIs was 5,427,000. In theory, if this tendency continues, even taking into account that the number of graduates of high schools in Russia in recent years has diminished, in 10–15 years the number of students in the country will be the same as the number of graduates from secondary schools. This is impossible in reality. But the tendency speaks for itself. The extensive growth in the number of students and the decrease in the standard of living of teachers have already caused a problem. Teachers who receive low pay for their work have been compelled to undertake additional work in other places not connected to their basic function and qualification. As a result, all of them have been gradually losing the level of professionalism. It became clear that the quality of education is inevitably exposed to further devaluation. Graduates who receive a diploma indicating this or that kind of education, actually do not have the qualifications certified in the document.

However, the occurrence and amplification of such complex problems has also had positive consequences. It has sharply prompted a process of real capitalization

of education, its commercialization, in particular a sharp growth in the number of non-state HEIs. Thus, the resistance that the former bureaucratic structures imposed on the state forms of higher education has been overcome. It has become clear that since the state cannot provide an adequate level of payment for teachers, and cannot supply educational processes with the required equipment, it is necessary to delegate this function to private educational institutions. If we consider the last 10 years, the number of state HEIs in the Russian Federation has increased by only 19.3%: from 548 in 1993 to 654 in 2004. Whereas the number of non-state HEIs in same time has increased more than seven times: from 48 in 1993 to 392 in 2004. On the whole, the increase in the number of non-state HEIs in the Russian Federation can be considered as an undoubtedly positive tendency.

It is natural that in crisis conditions generally positive tendencies can be reversed by their additional downside. Commercialization has also given an impulse to "shadow" processes in education. First, the responsibility of the HEI for the quality of the education of their graduates has fallen considerably. Many newly created HEIs cannot provide the required educational standard, and the control over their activity has to a substantial degree been lost. Data describing the situation in 2000–2001 is shown in Table 8.4 of Appendix 3. It becomes clear that the aforementioned shadow practices are so regular as to allow a statistically authentic picture of various regions of the Russian Federation. Our interviews, which were conducted in the Northwest region, have shown that the practice of students bribing teachers of HEIs in order to be admitted to examinations, or to receive the needed examination grade is also rather common. In the market original tendencies towards monopolization are even revealed. Some HEIs, recognizing that more or less stable "market" prices have been established for the services of HEIs for recruiting applicants, for rendering pre-examination tutoring services, for bribes to be admitted, for additional consultations during the educational process in the HEIs, etc., are trying to "undertake" all this chain of services to carry it out on a commercial basis. It has a kind of the formula: "Many HEIs of Russia have undertaken mission to train of their future applicants" (Innovation strategies 2003, 334).

Certainly, it would be a mistake to focus attention mainly on the negative side of the mentioned processes, i.e. on the infringements of morals, etc. The formation of market relations that has rejected structures and practices of authoritarianism cannot be effectively regulated from any uniform center to which it could be possible to appeal against negative processes. The market acts as an adequate regulator of such processes; it is formed by initiatives of real participants of business activity. If the applicants and their parents generate high demand for educational services, teachers of HEIs have the opportunity to respond to this by meeting this increased demand by raising the "price" for these services. Certainly, it is possible for them to do so until employers declare a serious devaluation of such "education" to be the result. As a whole, it is obvious that these shadow processes are undoubtedly a temporary phenomenon.

On the other hand, these shadow displays in the higher education of Russia indicate an extremely high social prestige attached to higher education in the eyes of the population of Russia. There is excessive demand for higher education. For

the majority of families in modern Russia such a high price for the higher education of their child is close to the maximum affordable for their budget. In this sense, the social capital of higher education for the modern Russian population can be counted as unprecedently high in comparison with other countries. This statement is also proved by the fact that the majority of the population is well enough informed that the higher education diploma does not at all guarantee obtaining a job. Only 40% of students consider that they have quite good chances of getting a job within their specialty after graduation (Iljin et al. 2000, 45).

Moreover, there is a serious growth in fears, even among employed managers, that they may lose their job due to the increasing disparity between the number of jobs and the number of graduates of HEI. And the scale of this disparity, as can be seen in Table 8.5[1], appears to be highest in the "industry and construction" branch of the economy.

Table 8.5
Number of students and number of jobs according to branch of the economy 1990–2001

Branches of economy	Percentage change in number of students in HEIs	Percentage change in number of those employed
Industry and construction	138.8	63.8
Agriculture	102.0	130.3
Transport and communication	104.1	90.2
Finance and management	208.0	190.4
Public health services	91.6	94.8
Education	142.7	113.2
Region in total	**133.4**	**89.4**

From 1990 to 2001 the number of jobs in the economy of the region decreased by 10.6%, whereas the number of students during the same time increased by 33.4%. An especially sharp discrepancy can be seen within the branch of industry and construction. Here the number of jobs was reduced by 36.2%, whereas the number of students ready to occupy jobs had grown by 38.8%. The discrepancy in the sphere of transport and communication is slightly less. The number of jobs was reduced by 9.8%, whereas the number of students grew by 4.1%. The discrepancy in the branch of education is in turn more rigid. But it occurs against a background of growth in both demand and supply. However, in this case the growth in supply appreciably also outstrips the growth in demand. Over ten years number of jobs in the sphere of education had grown by 13.2%, whereas the number of students had grown by 42.7%. A similar situation is observed in the branch of finance and management. The number of jobs had increased significantly, by 90.4%, i.e. the number of jobs had almost doubled. The number of students studying finance and law had more than doubled. It had increased by 108.0%. The only sphere of employment where the percentage change in the number of students was less than

1 The St. Petersburg region data is included in the table (see Tables 8.2 and 8.3 of appendix 3), since tendencies occurring there are illustrative of those in the country as a whole.

the percentage change in the number of employed was public health services. In this branch of the economy there was a simultaneous reduction in both the numbers of jobs and the numbers of students applying for these places after graduation. The number of employed decreased by 5.2% and the number of students decreased by 8.4%.

The described change in the balance means that the share of the jobless or inadequately employed graduates of HEIs constantly grows. "Monitoring interviews in St. Petersburg show that approximately one third of the graduates, who have recently received higher education and managed to find a job, do not work within their specialty… on the average about 5% of graduates are registered as unemployed. Graduates of engineering specialties account for 43% of the specialists trained by the universities of St. Petersburg. Among jobless graduates the share of those who did not get a job as an engineer is 56%" (Cherneiko 1999, 7).

Thus, the imbalance in Russian higher education be comes obvious. The functioning of this education as social capital is obviously enlarged if compared to its pragmatic function to provide the national economy with experts with the required qualifications. In economically advanced countries higher education is perceived by the majority of the population mainly as a natural means of promotion up the social ladder. But in Russian crisis conditions higher education is more dramatically perceived by the population. The majority perceives it as a chance to be kept from slipping down into the lowest social strata, since the process of social degradation and impoverishment during radical reforms and the subsequent crisis in the country was massive. In the eyes of the majority of Russians a considerable proportion of their relatives and friends appeared in poverty and social degradation.

The second reason for enlarging the value of higher education as social capital, as it is seen by the population, is protection against serious threat. For young men of military service age admission to an HEI serves as an escape from such service. Service in the army has become less acceptable for young men due to irregular relations developed in the modern Russian army, and the risk of fighting against a growing number of terrorist groups.

In conclusion, the demand of the population, especially applicants and their parents, for higher education in the Russian Federation has an agiotage character. If we focus attention on the social capital of education, perhaps, the main negative tendency of the last years of development in Russian education is that quantity indicators lower the quality indicators.

The price of special education as perceived by managers

In order to shed light on the transformation processes in an education system, it is important to find out how high the price is for the social capital of their special education, the dynamics of this price, as perceived by managers. For this purpose a comparison of the situation in 2001 and 2003 was made.

Starting the analysis of the questionnaire data, it is necessary to immediately make an addition to the above problems. The standard statistical analysis used for the majority of the empirical parameters of the questionnaire revealed no statistically significant correlations. The calculated factors of rank correlation seldom reached

statistical significance, though they frequently came close to it. In our opinion, this indicates that the tendencies in Russian education have not yet reached stability. Here they are much more inconsistent than in countries with a steady economic development. For this reason when conducting our analysis it was often more necessary than is generally accepted to use absolute values of the described variables to focus attention on any emerging tendencies.

How do Russian managers appreciate higher education? To what extent are they involved in the educational process, which in advanced countries has already turned into a process of continuing education of specialists? To a certain extent this can be determined by the dynamics of the number of managers with special certificates of graduation from various educational institutions, courses, and training programs. The data on such dynamics for the period 2001–2003 appear in Table 8.6 of Appendix 3.

The data shown in Table 8.3 of Appendix 3 is informative. It turns out that on the average in just two years Russian managers succeeded in increasing their attainment of various diplomas and certificates of specialization in the field of management by 9.7 points. If such a tendency is maintained in a couple of decades there will be practically no Russian managers without a special certificate of education in the field of management, and three quarters of them will have 2–3, and sometimes even 4 such certificates. The increase can be interpreted as showing the high value placed on special education by managers.

However, taking into account the "shadow processes" in education named above, it is natural to ask whether the education is highly appreciated by managers, or, in fact, only the certificate itself? In other words, what is more important for them: the image of being "educated" or a real qualification? To learn more an additional question was asked: "To what extent is special education of managers useful, in your opinion?" The answers confirmed the fears of the researchers. Only 29.2% of working managers were sure: special education is really necessary, "it is not possible to work without it". The answer given by 62.6% of respondents was a milder form of deprecating such education, "it is possible to do without such education, though it is desirable to have it". 6.6% of managers were categorical, "it is a waste of time". As such it would seem that the interest of managers in attaining various certificates of special education has more likely an image value in their own eyes.

At the same time, another conclusion also emerges. Working managers have had time to reach a desired social status. In their position, the tough competition for an opportunity to receive higher education, so frightening graduates of high schools, and the threat of falling down to the lowest social strata have lost their acuteness. Accordingly, managers have the opportunity to criticize the educational system, the opportunities for graduates. In addition, they estimate the demands of real business in Russia more realistically.

Another criterion that allows as to estimate the value of social capital, represented by special education is the readiness of managers to continue studying. The data regarding this characterizes the education system favorably. Thus, 60.3% of managers plan to continue their education, and only 39.7% of them have no such intention. To dispel the last doubts concerning the value of education to managers a question was

posed regarding the motives of these intentions to continue such education. The responses to this question serve to quell the optimism of the figures just mentioned.

The pragmatic motives: "to master scientific management" and "to master modern technologies" in sum do not make up one half of all the answers. And a moderate respectable motivation, "to expand my outlook" takes a significant place accounting for 26.6%. If we ignore the deep crisis processes of the Russian social and economic system, and to consider only these data, it is possible to assume that the educational level of present Russian managers is already quite sufficient for them, they do not have problems increasing their professional qualification. Managers are satisfied with the level of education they have, the excessive demand for education characteristic for applicants disappears here.

Thus, the high value of education as social capital, which, given the results of the first tables, it would be possible to attribute to the Russian population as a whole, actually is a characteristic of applicants and graduates of schools. The value of education is appreciably reduced in the eyes of working managers. Since higher education is so significant in the eyes of the applicants, it becomes clear that it is perceived as a special function – escaping niche. When the average Russian receives the rather prestigious job of a manager, in his eyes the value of education is reduced. Thus, it becomes clear that the real risks caused by processes of globalization here are still latent. In fact, the relatively low efficiency of Russian firms and management which is making a concession on the development to western firms (Blom et al 2004, 134–158) will surely make these firms noncompetitive on the open international market. Nevertheless, responding to a question relating to the expediency of the introduction of the country into WTO, 38.0% of respondents reported that it will be a favorable move for the development of the Russian economy. Only 19.8% of managers noted that they perceived a real and acute threat to many Russian firms. It is typical that 20% of managers recognized that it is difficult to comment, and 22.2% believed that nothing would change in the Russian economy after WTO membership.

In Russia an intensive process of capitalization of education is ongoing. The number of non-state HEI may well equal the number of the state HEI very soon. The population of the country is gradually abandoning the notion of education free-of-charge. The of ordinary citizens their own training becomes the most necessary means in intense competition for the preservation of social and property status, for social advancement.

Education is at the beginning of the process of intensive division into ordinary and elite. Today only few HEI of the Russian Federation have managed to gain an elite reputation. Gradually public ranking of HEI on their efficiency is coming to regular practice. This is not yet a real tool of practical activities of firms employing experts with higher education. Accordingly, the information transparency on HEIs and their efficiency has not yet been achieved.

The social capital of education also now appears contradictory. On the one hand it is characterized by overestimated evaluations of higher education, characteristic for the excessive demand, on the other hand there are too low evaluations. On the one hand,

higher education is perceived as a crucial condition for employment. On the other hand, a significant part of really working managers is inclined to believe that the required level of higher education for managers is an excessive one. Such of special education of managers as MBA, appears to be hardly demanded however prestigious. Besides the level of technological development of the firms, the typical cultures of management in the industry and in economy of the Russian Federation lag appreciably behind what is offered by the education system.

8.2. Productivity of formal training

An attempt made to estimate the effect of an increase in the level of managers' formal education. The estimations are made in three directions:

- How useful the training appeared to be for a manager
- What of effect the training had on the firm
- Whether the region received return on investments in the development of managerial training.

In the survey by the Russian sociologist Professor Chernysh[2], firms of eight patterns of ownership which, apparently, should evaluate the educational capital of the employed managers differently were compared. To answer the second question, in the same survey in addition to higher education as a factor of success of a manager in a firm, 11 more forms, sources of useful experience, skills, social connections were considered, which Russian managers have received during their integration into working life. These forms of social capital are listed in Table 8.7, where managers give a comparative estimation of their social experience, knowledge and skills received from different sources for the success of their activities in firms.

The maximum high rank of estimation, 1, was given to the response, "it is very useful", the minimal, 0, was given to the variant "it is useless". The others, intermediate variants, were proportionally placed on a scale between the poles mentioned above.

2 Professor Mikhail Chernysh of the Institute of Sociology, Russian Academy of Sciences, played the leading role in the development of the program, in the implementation of the surveys and the data analysis.

Table 8.7
Usefulness of experience and different patterns of ownership (a rank from 0 up to 1)

Kinds of experience	State	Private	Joint stock	Cooperative	Foreign company	Joint enterprise	Public organization	Non-commercial partnership	Total
Communication with experienced professionals	0.92	0.91	0.92	0.88	0.90	0.95	0.92	0.63	0.92
Creation of one's own firm	0.79	0.88	0.84	0.75	0.82	0.91	0.86	0.88	0.85
Higher education	0.85	0.78	0.82	0.81	0.72	0.86	0.82	0.67	0.82
Parental education/family upbringing	0.81	0.76	0.76	0.81	0.76	0.73	0.83	0.92	0.77
Non-managerial work	0.77	0.71	0.75	0.63	0.64	0.68	0.77	0.56	0.74
Post-graduate course	0.79	0.63	0.72	–	0.92	0.50	0.79	0.50	0.73
Work in CPSU organs	0.75	0.65	0.68	0.75	0.75	0.50	0.77	0.50	0.70
Military service	0.75	0.64	0.67	0.88	0.71	0.63	0.81	0.99	0.69
Work in student construction teams	0.68	0.58	0.62	1.00	0.59	0.60	0.70	0.99	0.63
Work in Komsomol	0.65	0.58	0.61	0.83	0.58	0.59	0.70	0.50	0.62
Trade union	0.61	0.53	0.59	0.75	0.44	0.42	0.70	0.63	0.59
"Street education"/ College of Experience	0.45	0.43	0.45	0.13	0.50	0.35	0.52	0.75	0.45

The data in Table 8.7 provides rich information. It is at once apparent that in the modern conditions of Russia various patterns of ownership as the markets of the circulation of the social capital of managers do not contrast with each other. It is also clear that HEIs are a source of social capital of managers. However, the communication of manager with professionals is a stronger source of this kind of social capital. For the success of a manager it is the most effective. The average rank of its value calculated for all firms, including all patterns of ownership is 0.92. Managers of organizations with the most common patterns of ownership, namely joint-stock companies (46.4%), private individual ownership (25.0%), and state ownership (21.8%), estimate the value of this form of social capital as jointly the best.

In second place there is experience from such sources as creation of own firm 0.85. The similar results for these two kinds of experience shed additional light on the internal relationship of these two kinds of experience. The essence of this relationship is that in both cases the question is one of practical experience. This experience cannot be gained without access to the real work of a manager, without the opportunity to participate in intensive contacts with businessmen and with the structures of business. The creation of one's own firm requires intense dialogue with professionals; it is an occasion and a practical basis for intensive dialogue with professionals. And this experience is acquired in a complete complex. Nothing can be shifted to someone else. However, some aspects of such experiences are considered "excessive stress", which would be best passed on to the owner. It may well explain the fact that, as a whole, the value of such experience is evaluated hardly lower than direct "communication with professionals" 0.85.

It is perhaps to be expected that experience of creating one's own firm is valued more highly by managers of private firms (0.88), of joint-stock companies (0.84), of joint ventures (0.91), than by managers of state firms (0.79). Within the organizations of the public sector of the economy, naturally, there are more opportunities to shift a part of functions onto representatives of the state. Experience of taking the full responsibility for the development and functioning of the firm, acquired during the creation of one's own firm is demanded hardly less here than in private firms. At the same time, it is expedient to note that the lagging behind of firms under state ownership from private firms is not too significant. It shows that nowadays even Russian firms under state ownership are further departing from the traditions and practices of a planned economy.

"Experience received in higher education" 0.82) is in third place on the list of valued preconditions for the success of managers. As a whole, it indicates that higher education nevertheless is considered to be social capital. In this sense "capitalization" of Russian higher education to an appreciable degree is a real fact for managers. At the same time, some problems associated with this kind of education were also shown here. The data in the table shows that this education has strong state character. Managers employed in the public sector are leaders in terms of their appreciation of this type of education (0.85). Managers employed in the private sector appreciate it notably less. Thus, in private firms this estimation was 0.75, in joint-stock companies where as a rule, there is an appreciable share of state capital, 0.82. It is especially noteworthy that

in foreign firms and in joint ventures with shares of foreign capital, the estimation of Russian higher education is also significantly low 0.72 and 0.73 accordingly. In fact, in such firms' managers directly acquire the advanced culture of management, and are capable of estimating the degree of sufficiency or insufficiency of Russian education against the background of modern European requirements.

However, such a situation does not, perhaps, cause any surprise, since the period when the interviews managers received their higher education was 21–22 years ago. The education of that period still aimed at the stereotypes of a planned economy. Education given by modern Russian HEIs, is already closer to current global practice. It is obvious that if similar interviews were to be carried out in 21 years, they would not reveal such a tendency of estimations, e.g. for the benefit of the public sector.

"Parental education/family upbringing" as social capital has a similar character. The current practising managers received their upbringing in their adolescence and their youth and it was certainly characterized by adaptation towards the traditions of a planned economy and towards the stereotypes of that society. In this sense, the high value of this education in firms has a function of an anti-advertisement for these firms. If in public organizations, in public sector firms, in cooperatives upbringing has helped the managers, shows that elements of the culture of management traditional for a planned economy are preserved in these organizations. In private firms, in joint-stock companies and in joint ventures such a "traditional character" is appreciably less represented.

It is interesting that experience of non-administrative work in large companies also acts as a positive precondition for the success of a manager. Here the future manager learns to see successful and unsuccessful practices of management as a practitioner. It is really valuable experience. This is also illustrated by the relative efficiency of the Japanese management culture, when a worker can rise in a firm up to a position of a senior manager, starting from being an ordinary worker. Probably, this is why managers of firms of various patterns of ownership estimated the importance of such experience almost similarly.

Any object in the market has a value if there is a demand for it. It is quite possible to imagine a level of education so high that it exceeds the ability of a firm to use it with sufficient profit. Postgraduate study may serve as a test for such ability of different patterns of ownership to utilize the high education of the worker. The data in the table in this sense shows unambiguously that only foreign firms can appreciate the educational level which exceeds the opportunities of firms of other patterns of ownership to use it. In foreign companies managers perceive postgraduate study as valuable and not excessive social capital for them. They evaluate postgraduate study highly, 0.92.

It first seems surprising that the experience of work in the CPSU is currently perceived by many managers as social capital. It might be seen that at least the leaders of firms with a foreign pattern of ownership should have avoided employing those managers whose mentality has been developed in such an antidemocratic organization. However, in reality this experience appears to be in demand. It sharply

characterizes the special cosmopolitanism of business. In fact it urgently demands advanced contact networks. Workers of party organs have special professional skill to patiently and carefully build and support wide contact networks. It is their social capital, so significant for business activity. Certainly, firms with a foreign pattern of ownership especially have a desperate need for managers with advanced contact networks. Therefore, they evaluate this experience at a level 0.75, not lower than the organizations of public sector of economy.

Managers with an average set of knowledge, skills, apparently, almost with equal success can find employment in firms of all patterns of ownership. Various patterns of ownership do not show sharp selectivity concerning the kinds of the social capital reflected in the table, the kinds of life experience which managers have. Moreover, there are no such forms of them, which, being obviously preferable in firms of one pattern of ownership, would so obviously be rejected in firms of other pattern of ownership. It would even be possible to tell about such source of experience, as "street education"/College of Experience. This kind of experience appeared to be highly demanded by firms of non-commercial partnership, besides, it is not practically demanded in cooperative societies.

The data above show that though the social capital of education, in the eyes of managers, is lower, than in eyes of entrants/incomers of HEIs, however it is quite significant. At the same time, education is not homogeneous. How different sources of education and various educational specialties differ from each other is now of interest.

Before starting the interpretation of the empirical data, it is important to note some features of the data analyzed. In the questionnaire the education of managers has been characterized by several parameters. One of them is the manager's profile of higher education, since 89.6% of managers had a completed higher education in non-management area. Another indicator is special education in the field of management, which 50.8% of the Russian managers had in some form in 2003. The third parameter is sources of experience and knowledge, which can be attributed to sources of education relevant to a manager. The time scale of action of these indicators differs essentially. Among the respondents there is a small share of those who finished a completed higher education 1–3 years ago. But a modal range for the sample as a whole of 21–22 years. There is even a small part of those completing this education 45 years ago. In this respect, education received by the respondents in HEIs, is "old" education. On the contrary, their special education of a manager is "new" education.

We begin the interpretation of the data in this section with "new" education. To determine what sources of special education of managers are more likely to be converted into the higher position of a manager, the following statistical procedure was applied. Each of status position of managers was ranked from 1 to 0. The status position "CEO" was assigned the highest rank of 1. The lowest – "Chief engineers, accountants" was assigned a rank of 0. Thus, for each kind of education the average rank of status position occupied by managers who with such education was calculated.

There is no great difference in the level of the social capital due to different kinds of additional specialized education for managers. Only some tendencies which in a change of conditions may be amplified, could be shown in another way.

It is noticeable, for example, that the high status of manager is associated slightly more with foreign education (e.g. "training abroad", and "in a foreign business school"), than with other kinds of education. Certainly, in this case there is not enough reason to claim any cause and effect relationships; for example, we cannot assume that special education of a manager received abroad is so fruitful for business that the manager appears to be more successful. The more probable assumption is that mainly managers with high status can more easily afford additional education abroad. Or from the point of view of top managers, mainly foreign education is of high value/ in high demand. Nevertheless, there is reason enough to consider that those managers who have received such foreign education nevertheless appear as more attractive in the eyes of their colleagues and employers. In this sense such education as social capital is more easily converted into increased status of managers interested in such an increase. Self-education, studying Russian courses of management and learning by doing are less associated with the high status of the manager. They occur to a smaller degree as valuable social capital of the manager.

The table 8.8 of Appendix 3 allows the social capital of various branches of education to be interpreted literally: into the social status and into the level of income. Features of Russian transformation processes are seen clearly in the given table. Education in an HEI is converted into enhancement of official status, whereas it barely correlates with high level of income.

Regarding business education, the situation is different. As can be seen in Table 8.8, business education, including managerial specialties is a favorable factor for maintenance of high incomes. However, the statistical tendency today is such that those who have received this education appear basically in lower status positions. Yet this is not due to particularities of business education. In its modern form, this specialty is new in Russian education. There is a small group of experts who have received this education; and they are also characterized by rather small experience of work in the specialty. Graduates of corresponding educational institutions have not had time to be promoted yet. It is even possible to assume that in some years such a steady tendency will be shown that managers who have received this education will more actively occupy leading positions in Russian management.

Opportunities for converting economic education are rather similar to those named above. Those trained in economic specialties statistically tend to be in the groups with high income. They are in third position in the rating of the level of incomes, and in the rating of status they are in the 8th position out of 11. A military education is at the opposite pole. Those completing it have good chances of attaining high status in firms and in various organizations. Their position on the scale of statuses is 2. However, as a rule, these are not high income positions. Their place on a rating of level of incomes is 5th. The education in law repeats this tendency. Its place in the rating of statuses is 3rd, and in the rating of level of incomes is 8th. The same applies to the group of specialties which during statistical processing have received the name "other humanities". Their place in the rating of level of status is first, and in the rating of level of incomes is 7th.

The data in the table shows a certain tendency. In a situation of reform of the economy and the social system, economic education, even inherited from the planned

system, and moreover business education, give a certain advantage to managers in achieving high incomes. It is a significant capital of this kind of education. Experts having this kind of education are more ready for changes of conditions of economic activities; they are more ready not to miss their chance during the changing "rules of the game" in the transforming society. At the same time, status positions in the social structure of the Russian society are still held by those who held them prior to the beginning of the reforms. This is seen in the fact that people who graduated in law decades ago, and those with "former" military education hold the higher status positions today. However, the social capital of their status attained earlier is inseparable from inevitable conservatism. Therefore, what they gain in status, they lose in income level. It could be expected that the pragmatism of economic specialties giving advantage in income level can consequently provide managers with advantage in their status. I.e. educational social capital and the capital of business competence will be more effective than the capital of status positions attained earlier.

It is significant that absence of the completed higher education – is a powerful factor undermining the chances of the manager to achieve both high official status, and increased income level. But nevertheless for managers with less education, the top positions on the income scale are less reachable than the top positions on the status scale. And in fact, during the recent times of the planned economy high status was a guarantee of high income.

At the same time, the table gives an example of negative social capital. The possession of higher education in the field of an agriculture is a stronger negative factor than even the "absence of higher education". I.e., a manager's income would have appeared more if manager had not received higher agrarian education at all. The main reason is in fact that the agrarian sector of the national economy now is the poorest one. Therefore, higher education, at least for the moment plays a role of negative social capital which keeps the expert in a position of social outsider. It is possible that if the expert could get rid of such "capital" he would be able to find a new field of activity for himself and could reach a higher income level.

Today technical and engineering education is suffering inflation. Two or three decades ago, from the point of view of the Russian youth, it had high social capital, it was popular. In many respects this was a consequence of the notion widely propagandized in the country that the national economy develops in a framework of scientific and technical progress. Accordingly, the majority of those who identified themselves with the intellectual elite of the country believed it was necessary for them to have the higher technical education. It is also revealed in fact that 41.5% of current Russian managers are graduates of technical universities. This is practically half of all managers having higher education. Firstly, the Ministry of Education initiates real reduction in students' intake to technical specialties. Secondly, diversification of education is being increased. Attempts to strengthen the "universality" of the training of specialists in technical specialties are also being made. Students of these specialties are also more intensively trained in economics, law and other specialties allowing graduates to create their own firms.

However, a principal reason for the fall in the appreciation among young people of the social capital of technical higher education is that: the industrial policy of the country is still not formulated with sufficient precision. Therefore, the popular expectations increase that in the Russian economy a low-road orientation will prevail. In these conditions, a graduate who has received a technical education may find a job abroad, since the problem of brain drain from Russia is actively discussed in the press. Ironically, young people see a personal chance for themselves in this problem of the country. Thus, a considerable part of young people while choosing the HEI hope that they will find a job abroad. In fact the chance of this kind of education will be to find the adequate consumer abroad, in order to increase adequacy and efficiency of the mentioned education. For example, some engineering HEIs of St. Petersburg have made contracts with large firms in Germany. Many students specializing in mathematics and in programming expect to be employed abroad.

Converting of education into other values

In the present research the fourth indicator describing the social capital of education was also used. This is involvement in the process of education. It is revealed by the question: is it necessary for a manager to have special management education? As mentioned earlier, 29.2% of all those interviewed reported unequivocally that the manager needs special management education, it is indispensable. More than half of the interviewed – 62.6%, were indefinite: it is desirable for a manager to have such education, but it is possible to manage without it. Finally, 6.6% of respondents chose the categorical variant: special education of the manager is a waste of time. Variants of answers in the questionnaire have been given in points. Therefore respondents, choosing variants suitable to them were compelled to allocate the choice in a wider sense: is serious education really necessary for the practical professional work of the manager? In this sense the question tests the social capital of education from inside. If managers with experience of serious education have received confirmation that such education is necessary, this education has real value. The social capital of such education is really high. If they were convinced that such education is a waste of time, such social capital more likely is negative.

Thus, managers giving a different estimation of the value of education, automatically appear to be agents of testing of other forms of activity and fields of activity for their compatibility with educational activity. This testing is logically similar to medical testing by radioactive marked atoms. Such atoms, accumulated in concrete parts of an organism, can specify the location of diseases. If managers who have estimated the utility of education poorly, appear intensively involved in concrete kinds of activity, whereas their colleagues who value education, avoid these kinds of activities, it means that this kind of activity in an essential degree “is incompatible” with educational activity.

The results of this test can be traced in the tables of this and the following sections. In this section five characteristics are considered, regarding which managers are inclined to estimate the success of their career. The first three characteristics reveal the presence or absence of the following social advantages in the position of a manager:

- Extent and efficiency of social networks providing employment for managers
- Advantageous position in labor relations
- Independence and extent of powers/responsibilities at the workplace.

Two other two characteristics have an decidedly material character; they directly determine the standard of living of managers and their families:

- Structure of benefits and privileges supporting and demonstrating status position of the manager
- Income level of the manager.

As a result, there is an opportunity to tell whether the learning process raises manager's personal self-esteem and also the efficiency of his activity. There is an opportunity to reveal the level of converting of the educational social capital into the attributes and symbols of success. As a quantitative indicator of converting education into a concrete attribute of success, the average rank of involvement of manager in the process of education accounted for this characteristic is chosen. The highest point for each observation unit is 1 = "without special education it is impossible to work as a manager", the minimum, 0 = "special education of manager is a waste of time".

Consider the first of the characteristics named – features of the social networks providing employment for managers. From the data in Table 8.9 of Appendix 3 it can be seen that managers active in sphere of education have the advantages of high social capital for such employment as election to a post on the initiative of the collective. On the contrary, businessmen, "who have created the workplace themselves" are characterized by minimal involvement in education. In other words, reception of higher education is a traditional and habitual way of promotion of managers on the social ladder for the recent past of Russia. It provides a favorable compromise of the interests of both the personnel of firms and organizations, and promoting managers. A manager using his personal effort to increase his own educational level raises his value, his "use value" for business partners. Thus he is sure that soon this increased "use value" will begin to work for him. Such activity is a delicate formation of networks of actual and potential business contacts which may recruit the manager when there is a vacancy. In this case the manager has an opportunity to rather passively wait for invitations either from the leader, or from the collective as a whole. His accumulated social capital works for him.

The situation is different for the manager who creates the workplace himself. Creating one's own firm is a business risk. To create such a workplace means serious stressful effort. It will more likely be accomplished by a person who does not have significant capital on contact networks which could recruit him.

Regarding employment in the sphere requiring high level of qualification and good personal qualities, help of friends or relatives seems to be rather outdated. Such help to managers during a planned economy is associated with the "*blat*" concept (Blom 1996). Nowadays, managers highly active in education, naturally, have nothing in common with such practice. It is not surprising that such "*blat*" practice appears to be more organic for those with a lower educational level and is inclined to call education a "waste of time".

Permanent work in modern Russian conditions is of high value. If increased educational activity promoted such stabilization, the social capital of education would generate an excessive demand even in already employed managers. However, the data in Table 8.10 of Appendix 3 more likely indicate an opposite tendency.

It becomes obvious that participation in the education process nowadays is not yet converted into the stability of the position of the manager in labor relations. Those characterized by increased involvement in education more often work on the basis of a verbal arrangement than on the basis of a contract. And on a constant basis they work less often than on the basis of a temporary contract. And, as it completely coincides with the situation noted earlier, they are less often self-employed.

It once again from other standpoints shows that some kinds of social capital can sometimes "damage", especially in situations of global transformation. Those accumulating high educational capital, the capital of reputation of a manager sharing interests of collective, more often allow other people to decide about their career. They more often allow other subjects to impose conditions on them, or conditions of the labor relations not fixed a contract.

Managers who not burdened with such social capital, adapt faster to new rules of play; they take higher posts in business.

The following question acts as a logical corollary: is the special education of managers converted into freedom of initiative, into completeness of the responsibility and competence of work? Educational activity is to some extent converted into the expansion of powers, higher degree of responsibility of functions carried out. This is a significant advantage for those active in education. The presence of such social capital in this case shows the advantage. Moreover, such capital creates preconditions for the further increase of competence of managers, expansion of opportunities for the initiative. In fact, those who get access to strategic decisions in firm, receive more information and the competence in a result. They get an access to that experience, which is so highly appreciated by them, proceeding from the data of Table 8.7.

However, this tendency in modern Russian conditions also has a downside. In parallel grows the degree to which the manager appears to be under the control of higher authority beyond the control of the employer. In the questionnaire the question of the presence of the external control over the activity of the manager was specially formulated. It turned out that that the rank of the involvement in education of those experiencing such control over themselves, was characterized by a level of 0.62, and those free from such control 0.57.

The following question is also natural, whether the special education of managers is converted into any material assets accepted in the Russian culture of business activity by symbols of "high position" of managers, such as the company car, the personal assistant, etc.

Involvement in educational process practically does not create status-prestigious advantages implemented in the form of material benefits to the managers. The distinctions between educationally active and passive managers are hardly noticeable. Perhaps there is only some increased likelihood of having a secretary and a summer residence at preferential rent that can be considered as some compensation for

the efforts of the manager to increase the level of his education. It does not seem surprising. The distribution of such privileges for the previous period of a planned economy developed a specific culture of relations in this sphere. Special networks of an informal exchange of services avoiding declared mechanisms of material and moral encouragement have been created on the basis of such distribution of privileges in the daily practice of firms. These networks in everyday language were called relations of "*blat*". As a result of these relations the benefits intended to encourage those workers, which outstrip others in labor activities, on their usefulness for firms, were distributed for the benefit of those who managed to construct networks of corruption inside the employer organization. High educational activity is, certainly, not included among the "virtues", merits appreciated in networks of such intra-firm corruption. The data in the table confirms this.

The income level provided by a firm where the worker is employed acts as a synthetic and most indisputable attribute of the success of the manager, as well as any other worker.

The data in the table obviously show that in modern Russian conditions the capital of higher education is rather poorly converted into increase of incomes of managers. This fact once again confirms the conclusion made above that the higher educational level in any measure has destroyed the determination of managers to operate vigorously for distinctly pragmatic purposes, for the sake of maximizing their own incomes. During a planned economy, too, higher education had a romantic side. The data shows that even in present conditions of an unstabilized market, managers identified with education still have no pragmatism in comparison with their less educated competitors.

In parallel with the named factor, certainly, there is an unwillingness among highly educated managers to take serious risks. One of the most effective ways to increase income is to cease to be an employee and set up a firm. It means radical change in the way of life. In the recent past it has been also connected to increased risk if the business is not profitable enough. Our research has also revealed a serious risk factor. While responding to a question "how frequently should you pay bribes", about half of employee managers responded: never. Among owners of firms it appeared three times less of such. Even besides the fact that corruption is widespread, the serious risk that some official might try to convict the businessman of bribery still exists, and threatens the convicted businessman with imprisonment.

Influence of education on a choice of strategy for business development

In our empirical data there are no opportunities to trace directly how changes in educational level influence the choice of business strategy. However, this influence can be traced in an indirect manner. Different degrees of involvement into education cause different models of activity of managers, different attitudes. According to these attitudes it is possible to make probable judgments about the strategies of business development they would prefer.

The most important source of information on the preferred strategies of managers is the analysis of their answers to three interconnected questions:

- What, in your opinion, is management?
- What are the conditions for the success of the manager?
- What from the success achieved in your firm do you consider as your own professional achievement?

As an attribute of the value of the educational social capital in the present section the same attribute is used as in the previous section. The data on the choice made by managers on the priority of problems appears in Table 8.11.

Table 8.11
Representations of managers on the priority of managerial problems/tasks

Managerial problems/tasks	Rank of educational activity	Number of responded, %
To win in a competition	0.640	8.1
To balance finances, e.g. to balance income and expenses	0.637	6.1
To rightly place the personnel, e.g. right people in right places	0.628	4.9
To orient in the market situation, e.g. finding the way in a market	0.623	12.0
To select either "stick" or "carrot" appropriately	0.618	1.3
To create an efficient organization	0.612	35.5
To make a foresight/predictions	0.611	18.0
To carry responsibility for the duties	0.595	8.6
To manage negotiations, e.g. to find a common ground	0.586	3.6
To control other people	0.519	1.3
Other	0.688	0.6
Total		**100**

From the point of view of the Russian managers the creation of efficient organization – is the most important problem/task. Of all those interviewed 35.5% of managers focused their attention on this task. When the manager could name only one primary problem/task of management, 69.2% of managers named 'creation of organization' as the main task of the manager.

Taking into the account this prevailing tendency, what kind of managers are able to even begin to pay serious attention to the external environment of the firm, to customers, competitors, etc? Those are the educationally active managers. They search for adequate means of "competitive struggle" (0.64) more actively, aspire "to be oriented in a market situation" (0.63).

It is likewise no surprise that managers interested in more education focus on "necessities to win in the competitive struggle". In an unstable market, in conditions of a hypertrophy of shadow economy in the country, it is really extremely important to strengthen the ability of the firm "to win in the competitive struggle". Opportunities to transform competition into partnership through mutually advantageous and jointly negotiated specialization are still extremely complicated. Managers show their constructability in the fact that their intention to improve the competitiveness of their firms is connected to lawful methods of diligent competition: achievement of effective

balance of profit and costs, perfection of organizational structure. A way picture is shown at the other end of the scale, considering managers claiming that "education is a waste of time".

In the present situation, where the level of shadow relations is high, many quite natural concepts acquire a double meaning. This has happened with the concept of "finding common ground". In increased corruption this skill turns into the skill to build corrupt connections. It is natural that highly educated managers have become distanced from excessive use of such "skills". In a sense "the control over other people" is also a prerogative of shadow structures. In firms of shadow type their profit is formed not so much due to technology factors, the rationality of their legal strategy and tactics of market behavior. Where the share of illegal activity is big enough, it is especially important to prevent information leakages, it is important to achieve full manageability of subordinates, full dependence on the partners involved in shadow business. The same goes for the ability to bear the responsibility for delegated business. Normally this is quite a valuable quality in a manager, the quality of business relations. But in an economy where the share of the shadow operations is big enough, from which this quality derives its special value. It also was shown in the increased tendency for it among less educated managers compared to highly educated managers.

These marked tendencies are further confirmed in Table 8.12 of Appendix 3. The table shows that the greater divergence in estimations between educationally active and educationally passive managers is in their relationship towards ties. This statistical divergence sheds additional light on the concept of ties, contacts between business people. It has a dual character in Russian culture. Those ties have positive sense, which support a constructive competition. These are those business ties which give to firm a character of the open system, and do not create advantages to newcomers, and do not create infringement to those who have not entered into these ties. Those who are educationally active create such constructive ties.

Other ties in Russian culture are called "*blat*" (Blom 1996). "*Blat*" relationships are aimed at acquiring those values primarily designed as common property by a limited group of persons. These ties have only poor chances of being generated in market conditions. It is more natural and more effective to participate in lawful acts in the purchase and sale of the demanded goods, than to extend special efforts on the formation and maintenance of regular illegal relations for the sake of incidental acts of "non-market" acquisition. Spending time and organizational efforts on maintaining these illegal relations appears to be harder than lawful payment for the demanded service/product at its market price. Russian managers, the majority of whom supported the radical reforms, expected that market relations would relieve them of burdensome dependence on such "*blat*" ties. Therefore, the radicalism of the position of educationally active managers "Ties are not necessary" for the success of a manager, is less not understood, but more in the nature of value attitude. For these managers it is important that specific ties have lost their value as a success factor of a manager. They, perhaps, are ready to make special efforts in order to make dependence on ties, on "*blat*" become a thing of the past. Another position is characteristic of those with a special talent to create and support such "*blat*" relationships, or to those with no other

means, except for "*blat*". It is not surprising that such managers were common among the educationally passive.

The most interesting data for the interpretation is in Table 8.13 of Appendix 3. These data shows how managers in practice realize both their orientations mentioned above and the modes of action of the manager desirable for them.

It is seen that in their real activity the main orientation of the Russian manager is an orientation to the inside of the firm, and even towards their own division. Of their total number 14.5% considered that the success of their division was due to their own efforts. In second place for popularity was a "Preservation of the team of qualified personnel in an enterprise" at 12.9 %. When respondents had an opportunity to choose only one response 25.9 % chose the named variant.

It is the benefit of educational active managers that they have a wider perspective on the economic, industrial technological reality. The necessity for the innovational development, both own firms and national economies as a whole is clearer to them. Therefore, 'Introducing new brands of products, services' is their "business card", image. This also meets the high parameter which directly evidences their creativity in the sphere of technology – "Creation of innovation products and technologies".

The indicator "Precise fulfillment of the demands of the owner" is interesting. It is interesting because it is named as one of the substantial characteristics describing a real improvement in the activities of a firm, instrumental to its greater success. In a sense, it is an alternative to those attributes of rational behavior, to rational strategy. In the Russian economy processes of repartition of the property are still not complete. Accordingly, proprietors are not always interested in optimizing the functioning of the firm or in the increase of rational criteria for this purpose. Frequently, in order to replace a pattern of ownership, or to get rid of a co-owner unprofitable to them, their tactical interest may be the opposite. In this case, the readiness of the manager to "precisely fulfill the demands of the owner" turns out to be of high value. In such cases it is important for the manager to speculate on the actual interest of the proprietor, and not to try to impose any representations based on scientific management, based on interests of the steady development of the firm.

The table shows that the higher social capital of education is a communication advantage. It stimulates a manager to appreciate a strategy of a good relationship with partners. On average 7.7% of managers achieved such successful relations with partners. At the same time educationally active managers surpassed this parameter twice. I.e. they understand better that the expansion of social networks of a firm and increases in its contact social capital are a guarantee of the future success of both the firm and the managers.

In addition to the direct assessments of managers about the strategic actions they prefer, significant information can be received from their estimations of significant external conditions of activity. Here could be mentioned their point of view about features of the market, problems/tasks of the state concerning the economy and some problems which distort the required conditions of activity.

According to the data in Table 8.14 of Appendix 3, conceptual representations of the market polarize managers slightly more between educationally active and

educationally passive. For the former representations about the market prevailing in the advanced countries are more characteristic. Here the following could be listed "A possibility to interact economically with the developed countries", and "Work for the consumer", and "Freedom of economic activity". Predicting the strategy of activity of the firms managed by educationally active managers, it is possible to be sure that they begin to expand connections with foreign partners and will start with a priority of interests of the consumer.

Another situation is characteristic for educationally passive managers. While making their choice of strategy they more inclined to recognize that the market is a state of economic chaos. That in conditions of chaos it is beneficial to operate, developing a specific system of communications and connections. By these connections the educationally passive managers more often meant shadow and corrupt connections.

What do these educationally passive managers mean by the concept of economic chaos. At first sight it seems that they are critical of market relations. Our statistical analysis carried out by us has not confirmed such an assumption. Among the managers interviewed a few can be characterized as having a critical attitude towards a market economy. And among educationally passive managers such respondents were practically not found. Thus, both the concept of economic chaos and corruption have no negative sense. More likely economic chaos and corruption are considered as a specific condition of freedom of action. Such an assumption was also empirically established. Respondents were asked about the reasons for corruption in Russia.

The results were quite eloquent. Educationally passive managers are inclined to more often consider corruption as a specific Russian tradition. I.e. it, it is incorporated in the culture of the people. It appeared that educationally passive managers outstrip opponents on intensity of identification with the given nation, with given people.

The statistical analysis reveals, though only slightly, a syndrome: educational passivity – tolerance to shadow connections – tolerance to corruption – identification with the nation. Certainly, this concerns only scarcely revealed tendencies. To put it more precisely, this is not tolerance of corruption, but a slightly greater tolerance of corruption than what is shown by educationally active managers. The same also applies to the other mentioned characteristics.

For the educationally active managers another syndrome is characteristic. This syndrome: educational activity – orientation to innovativeness – distancing from corruption – cosmopolitanism. These respondents are equally identified with both the western way of life and with the governmental structures of the Russian Federation. Managers in this group will not make corruption their ally, and do not consider it a cultural tradition of the country. In their eyes it is a common problem, which has not been solved mainly because there is still a gap in the efficiency of the state.

In summary the responses show that the international partners of Russia can expect that when the crisis is overcome, and the educational process is intensified, corruption will gradually disappear from the business life of the country. Consequently they will be more and more often able to find effective partners among highly educated Russian managers.

In Russia there is ongoing an intensive process of the capitalization of education. The number of non-state HEIs of education may be of the same as the number of state HEIs in the near future. The population of the country is gradually relinquishing the standard of free-of-charge education. For ordinary citizens their own training becomes the most necessary means of preserving social and property status, and of social promotion.

Education is in the beginning of a process of intensive diversification between the ordinary people and the elite. Today only few HEIs of the Russian Federation have managed to get an "elite" reputation. Gradually the public ranking of HEIs on their efficiency is becoming regular practice. It has not yet become a real tool in the practical activities of firms employing experts with higher education. Accordingly, the transparency of activity of HEIs and their efficiency has not yet been achieved.

In a situation of such contradictions the social capital of education also appears inconsistent. On the one hand it is characterized by the overestimated evaluations of higher education characteristic by excessive demand, on the other hand there are too low evaluations. On the one hand, higher education is perceived as a crucial condition of employment. On the other hand, a significant part of working managers is inclined to believe that the level of higher education, specialized for managers, is excessive. Such special education of managers as MBA, appears to be hardly demanded although prestigious. Besides, the level of technological development of the firms, the typical culture of management in industry and in the economy of the Russian Federation lag appreciably behind what is offered by the education system.

Therefore, the capital of higher education is typically poorly converted into an increase of the level of incomes of managers. It is possible to state that higher education has even decreased the level of managers' determination to strive to maximize their own incomes.

The same tendency was revealed in features of converting of education into social or professional status. Higher special education obviously serves as a factor in the promotion of the manager but only as long as he remains a hired worker. Leaders of the firms are more often not those who have the highest educational qualifications. Thus, the social capital of education in conditions of transformation processes may in some aspects appear negative. This especially concerns periods of social and economic crisis. Education focusing students on models of evolutionary development interferes with breaking the stereotypes and with non-standard decisions and actions of managers. It concerns especially the education generated within the framework of a planned economy.

A serious problem of Russian education, and especially the education of managers is that the Russian Federation has not so far positioned itself on the international market. This is connected to the fact that in the public consciousness the development of an image of the place and role of the country in international community is not complete. It is not enough thought through. The real place Russian education occupies today within the framework of the international market of educational services remains unsettled.

However, relevant comprehension of this place gives serious opportunities for the Russian economy and Russian education. The international division of labor stimulates countries with high economic and technological development to focus on high-tech and knowledge-intensive technologies. Most mass technologies are, naturally, transferred to countries able to reproduce them. Russia has still sufficient potential to undertake the realization of such technologies of an "average level". This is a chance for Russia, which may be missed. The goes for education. The present situation with higher education is that there is still a chance to train specialists of high qualification demanded:

- by foreign firms working both in Russia, and abroad
- by Russian industry, economy, if the industrial policy takes the existing opporunity.

In this sense, in the international market, foreign firms today have enough beneficial influence on the education system in Russia and the social capital of its education. Thus, in Russia, foreign firms functioning here act as leaders for really higher education of Russian managers. Second, foreign firms employing graduates of the Russian HEIs, create a favorable reputation for the higher education of managers. The population of the country is ready to mobilize funds in order to give higher education to their children, which lifts the level of the incomes of the teaching staff at HEIs. It is natural that in economic crisis such incomes have quite often shadow character. But all this makes it possible to retain competent teaching staff.

The statistical analysis conducted has revealed though to a small extent a syndrome: educational passivity – tolerance of shadow connections, tolerance of corruption, identification with the nation. For educationally active managers another syndrome is characteristic. This syndrome includes educational activity, orientation to innovation, rejection of corruption – cosmopolitanism. These respondents are also identified with both the western way of life and the governmental structures of the Russian Federation. During the short time of re-division of property in Russia the social capital of education has in any sense revealed its downside. Managers, highly captured by education have shown less initiative in acquiring property, in creating their own firms. But now, when the intensity of reallocation of property has essentially decreased, education helps managers to see prospects and to appreciate factors of a strategic success.

The research has shown that in Russia educationally active managers are inclined to choose more constructive variations of business strategy, of cooperation and collaboration with foreign partners, of openness to the world market. These leaders of positive changes have not yet managed to improve a situation as a whole. However, the educational process is like a stream of water. Economic stagnation, shadow economy can for some time hinder the way of development of Russia. But the educational process will gradually erode these obstacles. And this feature of education has the increasing force. Moreover, globalization does not leave any other alternatives.

8.3. Productivity of the formal education of managers for the establishment of principles of sustainable development in the economy

In February 1994 the President of the Russian Federation signed the Decree about the transition of the national economy to the model of sustainable development. The expanded concept of transition to the sustainable development in Russia was accepted in 1996[3]. The head of the government of the Russian Federation participated in the discussion and signing of the Plan of Actions, the final document of the Earth Summit**,** accepted in Johannesburg in 2002. In this sense, the country has already taken some important steps to accept the principles of sustainable development. At the same time, it is obvious that the real establishment of these principles begins only with the empirically observable reorientation of practical activities by social actors, with the changes in the strategies of development of concrete companies, the branches of economy, regions, etc, which can be noticed by external observers.

Managers representing all branches of the Russian economy are considered here as actors of practical economic activities, capable or for the present unable to realize the principles of sustainable development. A representative survey of 1005 managers was carried out in all leading regions of the country in 2003. It was conducted by Professor Chernysh[4]. During the survey, managers were asked questions, which indirectly revealed their inclination/predisposition or non-inclination to focus their practical activities on the principles of sustainable development. The following question acted as an additional focus of interest: to what extent is the higher educational level of managers the catalyst for developing and realizing the principles of sustainable economic development?

As a whole, the majority of researchers have no doubt that in a normal state of affairs the rise of the educational level among the population and managers serves as an important factor of social and economic progress that brings the life of the country to function up to an ideal of sustainable development. Thus, it would be interesting to reveal this tendency in modern Russian conditions to determine the weight of its influence. For this purpose we found during the empirical check of a hypothesis about the importance of education of managers four statistical types:

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3 So far in Russian science, as well as in world science, discussions about the contents of the concept "sustainable development" are not complete. The idea of present paper chapter us to use a simple semantic nucleus of the given concept, which practically does not cause discussion. It has been formulated in the report of World Commission on Environment and Development in 1987; often called the Bruntland Report. "Sustainable development" is defined as a development, at which "Today's needs should not comprise the ability of future generations to meet their needs"; i.e. sustainable development assumes the creation, on the one hand, of a sustainable economy which will satisfy human needs, having excluded the extraction of resources or manufacture of waste products in a volume exceeding the regenerative ability of an environment, on the other hand, the creation of social institutes which can guarantee safety and an opportunity for the social, intellectual and spiritual growth of the population.

4 Professor Mikhail Chernysh from the Institute of Sociology, the Russian Academy of Sciences, played the leading role in the development of the program, in implementation of the surveys and the data analysis.

1. managers without higher education (6.3 %);
2. managers with higher education without additional special business administration education (40.7 %);
3. managers with higher education, having received one or two kinds of the special training of managers (24.4 %);
4. managers with higher education, having received three or more kinds of the special training of managers (28.6 %).

Choosing the characteristics with which it is possible to determine the degree of predisposition of managers to the principles of sustainable development, we used the following groups of parameters:

- A group of direct parameters concerning the orientation to the principles of sustainable development was represented by parameters showing the positive attitudes of the managers to the expansion of international contacts and to the introduction of the country into the World Trade Organization (WTO)
- A group of indirect parameters concerning the orientation to the principles of sustainable development was represented by indicators showing the readiness and ability of the managers to act according to the company's development strategies, not only according to the nearest tactics
- Efforts of the regional authorities for the creation of innovation systems, including these systems in transnational networks is an important indicator, which reveals that regional managers are able to implement goals and principles of sustainable economic development.

Orientation to the expansion of international contacts

Consider the action features of these three groups of parameters one by one.

The degree of openness to international contacts was analyzed with six parameters revealing the corresponding attitudes of managers, as in Table 9.18, the first two revealed a correlation to the educational level of managers, which is almost statistically significant. The first parameter, the degree of identification of a manager with the West and western way of life. This parameter acts in many respects as determiner of the extent to which managers are focused on international contacts and connections, and to what extent they are ready to promote the integration of the Russian economy into the economy of the West. The second attribute acts as "practical realization" of the first one – readiness of managers to positively accept the introduction of Russia into the WTO.

Managers' openness towards international contacts is rather low. The statistical data processing allowed the generalized answers of respondent groups to be distributed in a range from the maximal possible rank 4 = "total acceptance" down to the minimal rank, 0 = "total rejection". The fact that group estimations appeared to be displaced down to the bottom end of the scale indicates an adverse situation which, however, decreases/improves a slightly as the educational level of managers rises. It is especially noticeable in the orientation to the WTO.

Still, for a more adequate estimation of the data it is important to take into account some semantic nuances. They give additional sense to the named empirical finding:

the growth of education stimulates manager's orientation to the West and western way of life less strongly than their orientation to the WTO. This result is in many respects predetermined by the fact that for the last 10–15 years the sense of such orientation has changed in the managers' perception. Talking about orientation to the West, respondents quite often stated: "We have got our own West here now"; i.e. it is not so much that the Russian respondents have a weak inclination to the West, but it is more about how the semantic opposition, the West – Russia, became weaker. From the point of view of the Russian managers, their country has in many respects already become the West. Therefore, for those who have already become "western" it is strange to hear such an "archaic" question: "To what extent are you oriented to the West?"

The tendency is noticeable: the higher the educational level of managers, the stronger their focus on the western way of life, as such.

To elucidate revealing the additional semantic meanings of the orientation to contacts with the western business world, three questions were asked in the questionnaire: What is the market, what is globalization, and what is the role of the state in a national economy? In the range of response options to each question, there was an answer specific to the task of the present chapter: "the expansion of interaction with the advanced countries of the world". Our hypothesis was based on the representation that the expansion of the outlook of managers, which occurs due to rise in educational level, causes them to value international connections, the openness of the Russian economy to western business partners and western social and economic institutions more and more. To a certain extent this hypothesis was uphold. However, the level of statistical reliability of such conclusion seems to be very low. We shall consider the data in more detail in Table 8.15 of Appendix 3.

The list of directions in which the state could reveal activity concerning economy, contained 16 options. The χ^2 criterion has shown that educational level of managers statistically significantly influences the full set of their expectations concerning the state: in what directions it should be active, and in what passive. The χ^2criterion designed for a matrix including all response options to this question, appeared to be 67.630, which is almost in 1.5 times higher than the minimal value χ^2· At the same time, the point that "the state should create a favorable climate for investments", where mostly foreign investments were meant, appeared to be far from "leaders of influence". Other forms of activity of the state listed in the question appeared to be essentially more demanded, such as, for example: "Development of general business rules", "maintenance of equality of all before the law", "redistribution of incomes, mitigation of inequality", "development of uniform economic strategy", "protection of domestic business in the home market[5]". The frequency of how often managers named these points of activity to be desirable from their point of view, was 2–7 times higher than the frequency of how often they mentioned the necessity for the state to care about the investment climate. Therefore, in Table 9.19 no parameter of positive relation to the development of international connections reached statistically significant correlation to the parameter of growth of educational level. However, the communicative function of

5 Intention to be laconic enforced us to transfer the detailed consideration of the named parameters into our further papers.

the state concerning western investors, the creation of a favorable investment climate, also appeared to be accepted by the managers. Thus, as seen in the table, a tendency emerges that managers having a higher educational level are more strongly inclined to stimulate the activity of the state in building bridges to western countries and on the attracting western investments in the national economy. In other words, the more highly educated managers favour social capital of a 'bridging' type.

A natural part of the readiness of Russian managers to expand international contacts is also their positive attitude to the globalization process. Therefore, in our survey we attempted to reveal in what sense, positive or negative, managers construe the concept "globalization". In particular, we have posed the question: in your opinion, what is the globalization process? The list of response options contained 9 detached statements/interpretations among which there were two points relevant to the concept of this paper: "a coordination of economic strategies on a universal scale and the occurrence of general global culture". A weak tendency for managers with a higher level of education to have a more positive attitude to the globalization process.

The same goes for the interpretation of the market. The response options concerning the question "What is market, in your opinion?" also contained 9 statements including both positive and negative interpretations. The following variant corresponded to the basic question of our paper: the market is an opportunity to cooperate with the advanced countries of the world. Apparently, a weak, but nevertheless noticeable tendency is perceptible: the higher the education, the more likely the manager is to give a positive sense to the concept "market" – "cooperation with the advanced countries of the world".

Increase in the opportunities to solve strategic functioning and development problems

The hypothesis of the second part of the analysis consisted of the statement that the increase in the educational level caused the manager to delegate tactical problem solving to less qualified colleagues. In addition, it caused him to be responsible for solving strategic development problems, and to be oriented toward criteria and goals of the long-term development of the firm, the region, and the country as a whole.

In order to prove this hypothesis, we considered four aspects of the increase in managers' "strategic orientation" given the extent of the increase in their educational level:

1. manager's estimation of the degree to which he can influence the formation of long-term plans
2. time, in minutes, which a manager regularly devotes to considering long-term strategy during his working day
3. time, in minutes, which manager regularly discusses long-term strategy with the proprietors of the firm during his working day
4. manager's estimation of the degree of his participation in the formation of plans of long-term development.

The empirical data is shown in Table 8.16 of Appendix 3. Two things emerge from the table. On one hand, the hypothesis appears to be upheld; the connection between higher educational level and opportunities to influence the strategy of the firm is doubtless. It is specified by such criterion, as χ^2? On the other hand, this correlation is not so strongly revealed. The empirical data shows that managers who have not competed higher education, deliberate strategy problems on average 5.8 minutes per day, while managers with a higher level of education deliberate for 7.5 minutes per day. This fact once again shows that the majority of Russian firms are experiencing rather hard times: they are still surviving and do not yet have opportunities "to look forward" to form long-term strategies (See also Chernysh 2004., 21).

Accordingly, the problems and tasks of momentary survival almost completely occupy managers' field of vision. The reason for such "short-sightedness" of most managers is not that they delegate the strategic long-term decisions to the proprietors or top managers. As lines 1 and 2 of Table 8.16 of Appendix 3 show, the managers do not doubt that questions of strategy are within their competence. Even the representatives of the least educated group estimate their responsibility to determine the long-term plans 2.26 rather highly, within the framework of four rank scales: between 2: "partly" and 3: "mainly" and the managers of the most highly educated group are close to estimation "mainly I determine the long-term plans of the firm".

These estimations are received on the basis of the analysis of the opportunities to form and change production or services. In fact, the correct choice on what kind of goods and services the firm should produce acts as the major condition, and further as the channel of developing the principles of strategy of sustainable economic development.

Managers do not consider the choice of production as something beyond than their competence. On the contrary, it is quite a routine subject under their control and responsibility. The majority of managers with a higher educational level say: "Mainly I make the decision on the production range of the firm". The self-estimation of managers with the lowest educational level is displaced towards the rank 2: "I partly determine the range of goods and services". Indicators of managers' estimation of their opportunities to frequently discuss the issues of a choice of production and services with the proprietors are fairly close to this data.

In this case, the figure of 3.0 % is rather expressive. Answering the question: "Within the framework of your manager career, what do you consider to be a professional achievement?" the managers mentioned "creation of new products and technologies". In other words, although the official powers and competence of most managers are sufficient for regular update, however, the updating of the production and services, a real update of production and services, is a rather unusual occurrence: i.e. the majority of the firms appear to be bound to the choice once made.

In addition, the increase in the active caring of the firm about its own business reputation and image is a rather convincing indirect attribute of the fact that management of a firm is being raised to a higher level, and begins to be capable of solving not only tactical, but also strategic problems. The data shows that the orientation of Russian firms to a strategic way of development is still in its infancy;

even the highly educated managers spend less than 2 minutes of their working day on representation functions. Practically, it means that a manager gives all the time to the current work, where there is no place for activity on the expansion of the social contacts of the firm or partnership with regional, federal and international structures, etc. Today these firms still mainly solve the problems of simple survival. Accordingly, for them the principles of sustainable economic development remain on inaccessible remote ideal.

The managers with higher education are more ready to consider the principles of such sustainable economic development as their "own principles". Accordingly, the increase in the education is a precondition for the gradual approach of those times when the principles of sustainable economic development will becomes part of Russian conditions. Thus, for the cross tabulation "Time for the performance of representation functions" – "Educational level of managers" empirically designed value χ^2 35.410 clearly exceeds its minimal value of 21,026. It reveals that the costs of a higher educational level are beneficial. For example, the performance of representation functions apparently, will be carried out a little bit more actively by higher educated managers than by less educated ones under other equal conditions.

In the present Russian conditions the increase in the education of managers does not act as a somehow serious factor providing an opportunity to improve the image of the firm. The empirically designed value χ^2 for the named attributes is lower than its minimally allowable value. It turns out that a favorable image, in the officially accepted sense of this word, does not give any serious advantages to Russian firms at present. However, the higher educated managers care somewhat more about the image of the firm, which could be considered a favorable tendency.

Opportunities for the development of regional and national innovation systems

The above data gives reason to assume that conditions for the adoption of the principles of sustainable economic development grow stronger only slowly in the present situation in Russia. The process of such development is in the initial stage. In this sense those recent events, in the region researched have special value and may and essentially change the picture. The top management of the country has officially declared a new economic course, expressed essentially in the words of the President: "National economy should become innovational".

It is possible to show the realization of such a course with the example of St. Petersburg. For the last year, about 0.5 billion USD investments from the federal budget have come to the region. The investments are directed to the creation of advanced innovational networks. The creation of new powerful techno park, similar in functions to the techno park Hermia in Finland, the creation of an extensive technological-industrial zone and some business incubators are envisaged. While creating the innovational system, the administrative and business structures are focused on the active use of the experiences in Germany and the Scandinavian countries. In the long term it is proposed to develop a mutual subscribing of the innovational systems of the northwest region of Russia and the countries of the European Community.

During the realization of such plans for development, the actors of economic life in Russia, in particular the Russian Northwest, could, in fact, adapt the economic experience of the advanced western countries quickly enough. Certainly, in this case, the Russian regions and business structures can master the principles of stable economic development fairly rapidly.

The economy of modern Russia is still experiencing sharp transformation processes. It is still rather far from the stage of sustainable economic development, on the principles of which the countries of the European Union, the USA, and Japan are focused. Therefore, it would be more appropriate to put the question this way: to what extent will the preconditions for the establishment of the principles of sustainable economic development in today's Russia grow in the future?

One of the important groups of such preconditions is the increase in the readiness of managers to be open to international economic and social contacts. Even if such readiness of Russian managers is still at a rather low level it is gradually improving. It is interesting that the openness to the international contacts grows faster in the sphere of practical interests, for example, concerning the introduction of Russia into the WTO. It is shown less actively in the sphere of social or socio-cultural identification of the economic actors. Thus, the increase in the educational level of managers noticeably strengthens their orientation to openness to international connections.

Another group of preconditions for developing the principles of sustainable development is the growing opportunities of managers to establish their activity on the long-term forecasting and planning of development. It was found that the majority of Russian managers from their own point of view do not lack power or competence for strategy formation. Obviously, the instability of the external conditions is so high that such powers and competence appear excessive. However, here again a higher educational level exerts a relative beneficial influence. The higher educated are a slightly more active in the development of the long-term plans and in the formation of their strategy. In a sense, they are almost invariably more ambitious than their less educated colleagues. Accordingly, to some extent they are destined to act as catalysts for the rejection of the tactics of shortsighted survival and as mediators in the transition to long-term (planning) strategies. This shows the progressive role of the growing education of managers.

It emerged that the salutary role of the growing education is the most prominent, at least in modern Russian conditions, in a situation where the creation of innovation systems is starting. The creation of innovation systems emphasizes the necessity to transform and intensify the special education of actors in economic activities, especially managers. In addition, the expansion of international contacts serves as a condition for the creation of effective innovation systems. Accordingly, the development of the principles of sustainable development can occur fairly quickly in the Russian economy due to the processes of mutual stimulation of the development of education and innovational systems. If this really takes place, the optimistic prognosis about the non-uniform character of the development of the countries and regions in the modern information society will once again find confirmation.

8.4. Productivity of hybrid education

Education acts as the most indisputable component of social capital, despite an abundance of theoretical interpretations of this category. Processes occurring in the sphere of education in their own way expressively reveal the sense of changes taking place in a society. And they in many respects predetermine what will happen with this society in the near and long-term future. Thus, the contradictory processes occurring in Russian education show the intrinsic changes taking place in the country. Regarding the features of this transformation, it is possible to predict the future of the Russian economy, the drift of its positions in the world market and the changes in relations with the international community. In this respect, the education of managers is especially significant, since managers are the original drivers of the development of industry in the economy of a modern country.

Place of education of managers among other success factors of a firm

The improvement in the education of managers can be perceived as a strong factor in the success of these firms. In the present research we have tried to estimate the strength of the action of this factor in comparison with other factors also acknowledged to be important. As such factors we have chosen the pattern of ownership of firms, the sector, the number of the personnel, the time-period of the existence of firms, the forms of integration of firms in various types of associations, holdings, and some other factors, listed in Table 8.26. As indicators of the success of the firms we have chosen four rather traditional features: the forecast of growth in the production volume, an estimation of the economic situation of the firm, the real research and development expenses of the firm, and the use of regional training programs for the introduction of innovations. We chose these indicators for following reasons. The success of a firm is not a one-dimensional reality. It should include both strategic and tactical components. A firm, which has good parameters at the present moment, may even in the near future appear as an outsider if it does not put enough resources into its further development. The predicted growth in the volumes of production serves as a parameter which emphasizes the present strategic position of a firm. The forecast of the improvement of the economic situation of a firm acts as a slightly more far-sighted parameter. In addition, it takes into account more than just a quantitative growth in volumes of production. Managers, as a rule, base their estimation on a systematic vision of a firm as a whole, and also on a systematic vision of its market position. The firm's real research and development (R&D) expenses have an even more distinct strategic sense. As these expenses are essential, it helps to inform us about the readiness of managers to risk profits in the present for the sake of the development of the firm and its profits in the future. Such expenses are the indisputable confirmation of an optimistic estimation of the future of a firm by its leaders. And, finally, the most risky investments are investments in the innovativeness of a firm, such as its quality assurance system. If a firm makes efforts to participate in special training programs directly focused on increasing its innovational potential, the claims of this firm can be estimated as the

most ambitious. On the basis of the data obtained from our survey of managers the Pearson's correlation coefficient between the parameters of the efficiency of the activity of firm and the above-mentioned factors, which according to all evidence should influence this efficiency, has been counted. The data appear in Table 8.17.

Table 8.17
Success of firms and growth factors (rank correlations)

Factors capable of providing growth in the success of a firm	**Criteria of success of firms**			
	Predicted growth of volume of production	Predicted improvement in economic situation of a firm	Real expenses of firm on research and development in current year	Participation in training programs for introduction of innovations
1	2	3	4	5
1. Training and improvement of professional skill of employees abroad	0.119	0.404**	0.437**	0.352**
2. Training and improvement of professional skill of employees in Russian educational institutions	0.134	0.349**	0.344**	0.370**
3. Planned increase of expenses on R&D for the next year	0.107	0.331**	0.293**	0.350**
4. Activity of use of distant systems of training	-0.009	0.266**	0.265**	0.339*
5. Pattern of ownership of a firm	0.221*	0.284**	0.069	0.361**
6. Educational level of managers	0.077	0.105	0.133	0.263*
7. The sector of a firm	-0.097	0.164	0.196	0.218
8. Time-period of existence of firm	0.051	-0.127	0.141	-0.023
9. Form of cooperation of a firm	0.057	-0.098	0.110	-0.045
10. Number of personnel	-0.067	0.079	0.071	0.114

** Correlation is significant at the 0.05 level (2-tailed).*
*** Correlation is significant at the 0.01 level (2-tailed).*

The data of the above table permit a number of conclusions giving use to both vigilance and a certain optimism. It turns out that in modern Russian conditions, the higher level of education of managers of existing firms as a whole has not shown its force. It has not yet given appreciable advantages to those firms employing better educated managers. Now the higher level of education of managers not managed to overcome some, apparently, rather significant obstacles. And these factors are so powerful that up to now they have been able to repulse such undoubtedly influential factors as the activity of cooperation of firms in associations and holdings (line 9), distinctions in the sectors of these firms (line 7), and the time-period of existence of firms (line 8). At this point of the analysis a remark concerning such factors as the number of personnel (line 10) is expedient. According to the table, the influence of this factor also appears barely appreciable. But this weakness is no surprise. Certainly, at the beginning of economic reforms when it was extremely difficult for giant enterprises to enter new economic conditions, the factor 'number of firm personnel' had significant influence. Accordingly, new firms with a small number of workers were much more successful.

But now large enterprises have appeared, for example, in the food-processing industry, whose success frequently exceeds that of small firms. These enterprises began to rise after the previous, well known, major recession in some machine-building and ship-building enterprises.

The characteristics of a firm 'participation in special training programs' (column 5) depends heavily upon the education of managers. Thus, there are additional reasons to assert that in Russian industry the processes of transformation are still so rough, unstable and the discrepancy of various factors of manufacture is so strong, that the power of such a respectable factor, designed for civilized economic relations as education is almost imperceptible. However, we shall try to understand more thoroughly the empirical fact that the unique indicator of success of firms, which appeared to be congruent with an increase in the education of their managers, is 'participation in educational programs directed at increasing the innovational potential of a firm.' In our opinion, this fact shows that an improvement in the education of managers now has the main purpose of forming a strategic reserve within a firm. This will doubtless bring major advantages to these firms even in the near future.

The value of such advantages, focused on the future will soon increase exponentially in Russia, as the time of its introduction into the WTO gradually draws nearer. It is fairly obvious that a number of branches of modern Russian industry will not be competitive in the world market. In this connection the correlation coefficient (0.218) between a firm's sector and the activity of their participation in training programs assisting the introduction of innovations revealed by the research creates a dual impression. It is close to statistic significance. In this sense, there are noticeable attempts by firms of relatively more prospective branches of the Russian industry to diverge from those outsiders, who are doomed to failure in the coming competition. And still it is noteworthy that the take-off achieved today is not yet enough. Great efforts will be necessary in order to increase the innovations potential of firms in those branches on which the Russian economy can still rely in the coming competition in the world market.

The table shows that a unique, really strong objective factor in the success of the firms surveyed by us is the form of ownership of a firm. The most successful, steadily prospering firms appear to be those either in part or completely in foreign possession. The group of the firms that are exclusively in private possession corresponds closely to this group of firms. These firms are characterized by their active participation in programs of training raising their innovational potential (0.361); the forecast of improvement of their general economic situation is more favorable (0.284). The fact that these firms are not in the lead on the level of on research and development expenditures shows that as a rule they act as affiliates of western companies. Research and development expenditures are mainly from/by parent companies. As a whole, there is no doubt that firms which today are partly or completely in foreign possession, outstrip Russian firms in terms of quality and novelty of design, as well as in technological development.

It is interesting to note that the influence of a factor such as a planned increase in the next year for research and development (R&D) expenditures and on the success

of firms is fairly close to the factor studied here, the educational level of managers. It turned out that today such planned increases in R&D expenditures are not the prerogative of those firms that have achieved high 'tactical success' and growth in volumes of production. The correlation of these parameters is rather weak (0.107). The growth of R&D expenditures in modern Russian industry is also mainly a strategic factor. Therefore, broadly resonating with this, there are general improvements in the economic situation of a firm (0.331) and especially in participation in the training programs supporting innovational development of a firm (0.350). The other three factors relating to the growth in the success of firms left for analysis are of a similar nature, and are similar to those relating to the growth in education of managers analyzed here. These three factors are: 'training and improvement of professional skills of employees in Russian educational institutions', 'training and improvement of professional skills of employees abroad' and 'activity in the use of distant systems of training.' It is noticeable that each of these attributes has a rather weak correlation with the incidence of momentary, 'tactical' success of firms. It is also fairly obvious that 'developing' the ability of each of them grows while moving from attributes of the tactical success towards attributes of strategic success.

To a certain degree it allows us to perceive modern Russian industrial firms regarding education as systems with positive feedback. The higher the education of managers, the more clearly the management of firms understands the necessity of further training of the experts and workers of these firms. This allows us to feel some optimism about the future of Russian industry. In addition, education really does act as the most mobile and flexible factor of economic and industrial growth. It appears completely natural that a significant part of the present Russian firms is inclined to take advantage of such an opportunity. Certainly, in a chain of factors which *should* provide the development of Russian industry, the most vulnerable part is the mechanism of transformation of a strategic reserve into a real resource for a firm's development. In fact, researchers have quite often, and not only in the history of the Russian economy, discovered such negative phenomena when this or that system accumulated significant volumes of any reserves, but these reserves, finally, appeared unclaimed and vanished into nothing.

Transformation of the 'potential energy' of education of managers into real firm's development

It is natural that in order to characterize the education of managers as social capital, it is important to know what the guarantees are that growing education can turn from the status of the potential energy of a society into its real energy? Here we invoke the experience of one of the most effective channels of transformation of Russian education. This is the so-called Russian Presidential Management Training Program (Presidential Program)[6] for the economy of Russia carried out for about the last 10 years. Within the framework of this program managers of firms of real sectors of the

6 The author of this chapter has been conducting surveys on the efficiency of the Presidential Program from 1999 to 2001, being an expert on the program in the Northwest region of the Russian Federation.

economy have been trained. They have received both new theoretical knowledge and practical skills, undertaking training abroad in successful firms of the economically advanced countries of Europe, the USA, and Japan. There is no any doubt that the new knowledge and experience acquired by managers was real and that it can give strong impetus to the development of firms. The source of doubt was in another reality. It has been well known for many years to many Russian researchers that very often organizations and their personnel display resistance to innovations, even to those whose usefulness is obvious to both leaders and ordinary employees. And quite often such resistance reaches such a stage that it blocks opportunities for the development of such organizations. For this reason in our research[7] a question was directly formulated regarding the resistance of a firm and its personnel to those innovations which managers trained on the Presidential Program have tried to introduce into the technological process and into the organization of manufacture: "Would you, please, estimate the degree of difficulties arising as a whole when introducing knowledge and experience gained by you into your enterprise?"

Only 23% of managers who have received advanced practice and knowledge of foreign firms, have not experienced rather strong resistance against attempts to introduce this new knowledge and practices into their own firms. The inertia of traditions in 40% of cases appeared to be rather strong. There is a big likelihood that the potential riches will never be realized. In fact, more than three quarters of all Russian firms render essential resistance to new knowledge and experience. And thus, the social capital of education is being strongly depreciated by features of the conditions in which Russian firms function and by features of practices that regulate labor activity and the viability of the survival of the personnel.

In such a situation, for the researcher the following question is most relevant: which factors hinder or block the natural ability of education to propel the development of a firm straight forward; to increase the success of a firm? Therefore in the questionnaire of our research a few questions were especially formulated to identify such factors. One of them was formulated in a direct way: "What factors hinder the introduction of knowledge and experience acquired during training and training abroad (probation)?" The answers are in Table 8.18.

7 There is approximately four years difference in the time period between this survey of St. Petersburg managers and the survey of the same managers in the framework of the Presidential Program. Our parallel studies in this region have revealed that although changes have been taking place, these have not been significant. This fact makes possible the present day analysis to be added and to the original analysis of the data collected in 2000.

Table 8.18
Factors hindering introduction of knowledge and experience acquired during training and training abroad (trial period)

Factor	1 – does not hinder at all	2	3	4	5 – strongly hinders	Total	Rank
1	2	3	4	5	6	7	8
Shortage of financial resources	7.9	9.5	22.2	31.7	28.6	100	3.63
Negative attitude of administration towards proposed innovations	33.3	19.7	15.2	15.2	16.7	100	2.63
Absence of consulting support	12.3	32.3	35.4	12.3	7.7	100	2.71
Unwillingness to accept by colleagues	42.2	28.1	18.8	9.4	1.6	100	2.0

Columns 2–7 – %, column 8 – weighted average rank

The fact that 'shortage of financial resources' is the major factor impeding the introduction of knowledge and experience is certainly not unexpected. The unexpectedness is in the statement of 47.1% (16.7 % + 15.2 % + 15.2) of managers that the 'negative attitude of the administration to proposed innovations' acts as rather strong factor impeding the introduction of new experiences. Almost half of all leaders of firms whose managers have offered them new ideas for development of their firm, have refused to support these ideas. The meaning of this refusal is demonstrated rather clearly: now both the survival and success of a firm depends on more primitive factors than the introduction of novelties suggested by managers after their training.

The resistance of other managers of firms who happen to be colleagues of those managers who increased their education and experience abroad is less significant than the resistance of heads of the firms. Such resistance has been faced by a significant number, 29.8% (1.6 + 9.4 + 18.8) of the total number of managers who have returned to their firms after training and training abroad. Our additional interviews have shown that the resistance of colleagues of the managers surveyed is similar in nature to the resistance of leaders. Generalizations of the stated motives can be formulated: Western firms in comparison with Russian firms function today in 'hothouse conditions', they are protected by the law, therefore they are inclined to obey the laws. It is natural that in conditions of stability and security, characteristics of Western firms such as: more advanced management, rates of development of technology and the innovational potential of a firm are decisive in the struggle for a firm's success. Therefore, Russian managers repeat from time to time: "Experience of training abroad in Western firm looks premature when applied to Russian firms".

From the point of view of the majority of managers, consulting support for the innovations proposed by them would be useful. Accordingly, the lack of consulting support can be considered a significant obstacle. But this obstacle has more likely a symbolic meaning. The fact is, as our interviews have shown, that managers after training abroad appear to be in a situation of certain internal conflict. To justify their own efforts in re-training, to justify certain losses of the firm caused by their absence undergoing in-service training, they *should* introduce quite real innovations into their

firms. But, as is apparent from the previous data, for the most part the initiatives proposed by such managers are actively opposed by leaders and colleagues. In such a situation, in order to at least avoid the reputation of 'lonely romantics', innovative managers, naturally, need support of some external authorities. The support is expected by managers from different sides. One part relies on Western training abroad. Hence they expressed regret that the western partners, which have provided training do not render sufficient consulting support for the introduction of projects offered by re-trained managers. Another part of managers believes that such support could be rendered by concrete divisions of the administration of the city, the Committee for Economic Development, Industrial Policy and Trade. In this sense, managers, anyhow, are interested in external support networks. But in any case, managers are not inclined to consider that the absence of consulting support is the main reason for the lack of success of their innovation initiatives. Only 7.7% of all respondents estimated this obstacle to be strong. The impact of this factor, certainly, is minimal compared to such major, important factors such as the 'negative attitude of heads of firms' and a 'shortage of financial assets'.

In addition to the subjective estimation of the negative or positive attitudes of heads of firms towards innovations proposed by re-trained managers offered above, our research allowed us to make an objective estimation of this attitude. As indicators of this attitude there were two aspects of real participation of leaders in the preparation and implementation of training of a manager in the Presidential Program. The first of these was reflected in the question: "What kind of tasks for design work within the framework of the Presidential Program have you received from the leaders of your firm?"

Obviously any even slightly conscientious head, when sending a manager for 3–6 months of re-training and training abroad, is interested in the results that such re-trained manager could finally introduce; some concrete project for raising the successfulness of the firm. Therefore, the figure of 53.7% is very revealing. It is such a share of leaders that, after sending a manager for training, have missed the opportunity to negotiate with this manager the concrete tasks, the concrete projects, which could give impetus to the firm's development. Thus, it was discovered that the majority of the leaders of St. Petersburg firms, even after gaining information from the Presidential Program, were still stuck with the stereotype developed during the decades of scheduled functioning of the Russian economy which can be formulated as follows: "Improvement of professional skills is more likely an attribute of formal respectability. But this barely helps the real growth of efficiency of a firm".

Besides, our additional interviews showed that the motivation of many leaders who sent their managers for participation in the Presidential Program, did not meet the educational idea of this program. Their basic motive was that they hoped that communication between a manager of their firm with other participants of the Program, communication with other managers representing foreign firms, could in itself serve to find business contacts, new suppliers or new consumers for the firm's production. It would be good not to miss such a chance, they believed, and they were not disturbed by the fact that taking one of the limited places in this training program, meant another

firm, which might really have been directly interested in re-training their managers, was deprived of such a necessary chance.

Thus, the social capital of the raised level of education, the improved skills of managers are really being misused by the absence of readiness of firms and their leaders to master and to benefit from such social capital offered by education. The absence of readiness acts as a specific filter through which the real usefulness of the upgraded education is compelled to pass in order to somehow demonstrate its usefulness. The irony of the situation is in fact that, fortunately, as a result of such training 'naturally' there is an actor who is simply compelled in any way to prove the usefulness and the efficiency of additional training. This actor appears to be the re-trained manager himself. If he fails even in some way to derive benefit apparent to other employees of the firm, he will be regarded as a loser. Bearing the new status of 're-trained', in order to rescue his reputation, such a manager is simply compelled to search for ways to make the above-named filter resisting against his innovational initiatives to become more permeable. Accordingly, it would be especially interesting to research in which directions managers persistently try to overcome the imperviousness of their firms to innovations. It is important to discover in what directions new knowledge forges a path for itself in order to benefit firms, or even to benefit re-trained managers. The following section is devoted to this matter.

Basic aspect of the usefulness of new knowledge of managers for firms

To discover in which directions re-trained managers succeed in crossing an innovational barrier, and as a result become successful. In the survey the following question was formulated: "Would you, please, mention what kind of changes you have implemented after participation in the Presidential Program?" The statistical distribution of answers is in Table 8.19.

Table 8.19
Estimation of changes implemented by participants of the Presidential Program in their firm after their participation

Results of participation of managers in the Presidential Program	Not applied (0)	Not realized (1)	A stage of initiation (2)	Realized (3)*	Total	Weighted average rank
1	2	3	4	5	6	7
Transfer to colleagues of knowledge and experience gained	1.5	11.8	55.9	30.9	100	2.16
Initiation of new projects	19.1	16.2	38.2	26.5	100	1.72
Participation in working out plans for development of the firm	16.4	16.4	46.3	20.9	100	1.71
Improvement of methods of management of the firm	26.5	14.7	36.8	22.1	100	1.55
Wider use of methods of collective work	31.9	14.5	34.8	18.8	100	1.41
Establishment of new business contacts with western partners	44.1	30.9	10.3	14.7	100	0.96
Attraction of investments	47.0	34.8	12.1	6.1	100	0.77

Columns 2–6 – %, column 7 – weighted average rank

* The figures in brackets: (0), (1), (2), (3), placed in the names of columns 2, 3, 4 and 5, mean weights given to variants of answers included in columns. They have been considered in the further calculation of the weight average ranks in column 7.

From the data it becomes clear that in those directions which were the driving force of the idea of the Presidential Program and the basis of its mission, rather modest successes have been achieved. Decide about Attraction of investments and the Establishment of new business contacts with western partners are achievements for an insignificant part of those trained within the framework of the Program, accordingly 6.1% and 14.7% of the total number of the firms, who participated in the Program. It is expedient to look at these data in more detail. Managers have also been to the greatest degree focused on these tasks. And in this sphere the majority of them have suffered the most shattering defeat, the scale of this defeat is emphasized by the circumstance that the majority of firms participating in the Program belong to the group of the most prospective firms in the economy of the region. Would it be possible from this to draw the pessimistic conclusion that even the essential increase of the competence of managers in Russian conditions is still powerless until such serious tasks as attraction of investments and establishment of new business contacts with western partners are fulfilled? Our additional interviews indicate a paradoxical answer: 'yes' and 'no'.

The majority of our respondents noted that on the whole western partners reluctantly respond to offers of cooperation with Russian firms, while they quite honestly carried out training functions, providing the opportunity and place for the Russian trainees to practice; they gave information on their own firms and of their own experience. Western potential partners were not ready to help Russian firms in terms of investments. It would seem that no additional training of Russian managers is capable of breaking the barrier of mistrust that western firms have regarding potential Russian

partners even though some successful examples (albeit relatively rare), evidence about the opposite situation. Managers who have been able to attract foreign investments and foreign business partners have done so because they have offered these western partners their own innovative projects which have really high appeal in both economic and technological terms.

For success it is not enough to make big efforts in additional training of managers and their further development, or to make a business proposal to a western partner representing a training base for the Russian manager. For real success it is necessary to make the maximum possible effort in additional training, and it is necessary to devote all resources to developing a business plan which includes proposals that can provide maximum attraction for a foreign partner.

This necessitates tasks which should be analyzed by research on the theme. In order to fully describe the details of the training of managers and the process of their training, it is necessary to take into account both aspects: extensive and intensive. The extensive aspect undoubtedly has a certain value. It is very useful, as knowledge can be spread widely when it is accumulated as a reserve for future growth. Besides, according to the data, transfer to colleagues knowledge and experience gained is the most obvious successful aspect of the Presidential Program. Almost one third of all graduates of the program managed to transfer their new knowledge and experience to colleagues. It is possible that additionally, 55.9% of them will be able to carry out their initiatives in the transfer of new knowledge in the near future. However, for real success, a firm requires the intensive aspect of knowledge, but it is the intensive aspect of training that has primary value.

The training of a manager should occur in conjunction with the creation by this manager of new projects aimed at business cooperation with a specific foreign firm[8]. That is to say training which can really overcome the natural caution of foreign partners and the natural conservatism of the leaders of Russian firms, should essentially improve its quality. It should sharply strengthen its focus on a specific target, and it should be integrated into the unity of training and design. Thus, a uniform activity, for example training and design, organizationally and methodically equipped, should be generated for managers. However, as our interviews have shown, during that period of time the organizers of the Presidential Program did not accept this idea. The HEI administrators responsible for managers' training have likewise not paid any attention to this issue.

According to the data in the table above, the activation of managers in such areas as initiation of new projects and participation in development of plans for firm development is one of the more noticeable results of training of managers. Correspondingly, 26.5% and 20.9% of graduates of the Program have achieved a certain success in this direction. However, about 9% of all participants of the Program were proprietors of small and medium-sized firms. There for they carried out both kinds of activity on a regular basis, irrespective of whether they participated in training processes or not. And still, some modest effect from additional training has been shown in quite objective spheres of activity of firms in new projects and in new plans

8 It is expedient that from the very beginning such a firm should be regarded not only as a base for training abroad of Russian manager, but also as a partner in business.

for development. Thus, it is possible to ascertain that these two spheres of activity of managers exhibit less resistance to the initiatives of re-trained managers, than reception of investments and establishment of new business contacts with western partners. Nevertheless 73.5% of graduates of the Program have failed to initiate a new project, even though the development of an outline for such a project was a part of the original admission requirements for participation in the Program.

Thus, the barrier in the way of initiatives resulting from new knowledge of trained managers is not only the mistrust of western potential partners, but also the specific mistrust of the leaders of Russian firms. Accordingly, re-trained managers should concentrate their efforts on the development of very convincing and very effective new projects in order to overcome the reluctance of both western and Russian heads of firms. It becomes clear that both methodologists and organizers of training programs for managers already at the initial stages should be guided by and should focus the trained managers on forward moving activity regarding both the administration and the personnel of their firms, and the administration of western firms their potential partners. Managers should know beforehand that in the near future they will encounter resistance to their rational and useful initiatives. Bearers of new constructive knowledge should learn to overcome such resistance, while for methodologists and organizers of programs of training for managers it would be expedient in the future to develop special methods and techniques for overcoming such resistance. The same resistance relates to the program of managers' training as participation in working out plans for development of the firm. As it the table shows, weight average rank of success of this activity of managers is almost identical to the weight average rank of success of initiation of new projects. This is understandable, as plans for development of the enterprises are not separable from their new projects.

A direct function of the majority of managers is the improvement of methods of management of the firm. In performing this function it would be possible to expect a major burst of activity from re-trained managers who have undergone training abroad. Significant material inputs, as a rule, are not required for the introduction of partial innovations in a business's operation. However, in reality achievements in this direction are also insufficient. Only 22.1% of respondents have managed to carry out such of innovations. Yet this is no longer surprising. In fact, significant changes in methods of operation of business are expedient for carrying out the initial step in the realization of new scale projects as a component of a firm's development program, or as a component of programs for adaptation to a strategic western partner. However, as the above mentioned data have shown, activity concerning a firm's development, the introduction of large new projects and the establishment of contacts with western partners is complicated in modern Russian firms. Improvement in methods of business operation, as regular activity, is carried out by advanced firms in suitably stable conditions. It is almost possible to say the same of such a form of activity of managers, as wider use of methods of collective work.

Usefulness of new knowledge for managers (basic aspects of its usefulness)

If new knowledge and the experience gained by managers during the Presidential Program turned out to be useful to them, for instance for their career advancement, it would say something of the efficiency of such a program or, at least, of some specific aspects of the efficiency. In order to reveal these aspects of the efficiency of the program a specific question was formulated in the questionnaire: 'How has your training within the framework of the program affected your competence and your position in the firm? The results after processing the answers to this question are in Table 8.20 of Appendix 3.

According to the data in this table, the general influence of the program regarding most aspects of the status and self-estimation of the experts, the graduates of the program, is clearly positive. A point of additional interest is the differences in degrees of responsiveness of different aspects of experts' self-estimation of this on the whole positive influence of the program.

It is noticeable that changes are most easily revealed in the sphere of subjective judgments, where the respondents themselves make an evaluation: 'self-estimation', 'understanding of problems of the firm', 'understanding of directions of firm's activities', etc. More problematically these changes are shown in objective reality, where the respondent is assessed by other people: 'relations with the CEO, 'relations with colleagues', 'career advancement, 'relations with Russian and foreign partners'.

If we look more carefully at the data, the so-called isolation inherent in the qualification of managers in modern Russian firms becomes more noticeable. The improvement in the qualifications of managers would appear not to be a bad result: about half of leaders (50.0%), colleagues (55.2%) and subordinates (52.7%) improved their relationships with a manager graduating from the Presidential Program. However, the bases for the following question are not insignificant: why does this amount not total 100%? In fact, a real gain in the qualifications and competence of managers who have undertaken training within the framework of this program is essential. It would appear that the personnel of firms, including the leaders, are distinctly interested in managers who have increased qualifications.

The overwhelming majority of them should render all possible forms of support to such highly educated managers. But it turns out that this is not the case; almost half of them do not render such support. The strangeness of this situation is amplified by the fact that it is the leaders of the firms who appear to be the first to ignor the enhanced qualifications of the managers graduating from the Presidential Program. Consequently, 8.8% of graduates of the program are compelled to resign themselves to poorer chances of career advancement.

Thus, graduates of the Presidential Program appeared to be in a difficult situation: their self-esteem, with good reason, had essentially increased, however, although their appreciation by their superiors and the rest of the personnel in their firm had increased, it was far from being so essentially increased, as in their own estimation. Such a situation causes emotional discomfort among managers and tense relations with colleagues and superiors. During the interviews our respondents quite often mentioned that the program had opened their eyes to the essence of management. The statements

of many of them can be generalized by such words as: “before training in the program I self-confidently considered myself a manager, and now I understand that my initial opinion was incorrect, only after training in the Presidential Program I learnt enough to consider myself a manager”. Such changes in the consciousness of the managers surveyed are clearly to their personal benefit. But, unfortunately, it is not possible to say the same of the majority of their superior peers and colleagues. They do not notice this difference or do not consider it important.

How does the position of managers with extra training change in the labor market? In order to analyze such changes the following question was included in the questionnaire: “What kind of offers have you received after you completed the training in the Program?” The results are presented in Table 8.21 of Appendix 3.

Qualification of the managers is a significant factor in increasing their mobility. If the increased potential offered by additional qualifications is not managed and utilized in the firm where the manager is currently employed, it is quite possible to take advantage of offers from other Russian firms. But, what is even more important, it is also possible to take advantage of offers from western firms. Such offers, as our interviews have shown, the graduates of the programs estimate as the most interesting and the most promising.

As a result, the prospect of market circulation of social capital characterized by the education of managers becomes clearer. It turned out that the enhanced skills of the managers was perceived as being valuable not in all Russian firms. Frequently managers as bearers of educational social capital face resistance from leaders of firms and from the personnel of the firm, which hinders the introduction of improvements in the operations of these firms. Within the framework of the global market economy, which with the sufficient reason can already be named the ‘learning economy’, such firms by refusing to be trained will inevitably lose out to the competition. Firms, which refuse to study in the most direct and effective way, will inevitably pay for their attitudes. Managers, who have acquired additional knowledge and skills leave for firms – competitors, who are capable of utilizing new knowledge and who are searching for highly skilled managers. Due to their competitive advantages, they very quickly make reactionary firms face a problem of a survival. Accordingly, such firms will eventually need to search for new knowledge and qualified managers.

The conservatism of the administration of the region is also evident. In the region investigated there are many thousands of firms under state ownership. The majority of them at the time of the present research required re-structuring and management reorganization. It was possible and necessary to solve these serious problems involving the graduates of the Presidential Program by incorporating them into the firms’ management structure. These ideas were not at all new to the administration of the region, to the organizers of the program or to its graduates. Such ideas were repeatedly discussed at joint meetings. However, none of the graduates have received this kind of offer. Thus, within at least the first 4–5 years of the program, the administration of the region as well as the leaders of firms have been a factor underestimating the social capital of education. The interviews, carried out at the end of 2004, showed that today the situation is gradually changing for the better. The Association of Participants of

the Presidential Program has been established, one of directions of its work is to act as an effective intermediary between firms with the state pattern of ownership, which demands highly educated managers, and managers who are inclined to realize their potential during industrial enterprises' re-structuring and during the reorganization of management systems by firms.

Firms under foreign ownership however, adequately appreciated the usefulness of the improved education of managers, which has been underestimated by Russian industry and by federal and regional administration. Accordingly, these firms were the first to include the best qualified managers in their staff and consequently also derived the benefits before their Russian competitors.

At the same time, this process also had one more positive aspect. Due to the aforementioned stimulating influence of foreign firms and due to the possibility of educated managers being employed by such firms, the process of integration of the Russian business culture into European and into international cultures developed and continues to develop. Russian managers who have mastered both Russian and western paradigms of economic thinking appear to be especially useful employees for western firms functioning in Russia. They are able to interpret the interaction between western and Russian partners very well. In this function they are especially useful as they have assumed managerial positions in firms functioning abroad.

Interlinking of the educational level of managers and the innovation activity of firms

The difficulties in the way of a direct and indirect transformation of a growth in a manager's education into improvement of a firm's economic efficiency are undeniably significant. However, despite the obstacles mentioned above, the enhanced education of managers has an indisputable effect on one of the essential aspects of a firm's functioning, namely their innovation activity. We have as no yet data that shows, for example, how improvement in the education of managers determines proportional growth in the innovation potential of firms. However, is sufficient reason to assume that the increase in the qualifications of those managers who have passed the Presidential Program really does stimulate the innovation activity of the firms where these managers are employed. In our opinion, the consequences of this specific aspect of enhanced education through the Presidential Program could, to a certain extent, be applied to the enhancement of education as a whole[9].

Our assessment of the mobilization of the innovation potential of firms took into account both future and present day consequences of activization of the processes of production and application of innovations by firms. In fact, for a firm's success it is necessary to provide a coordination of, on the one hand, innovational initiatives based on remote and immediate prospects, and on the other hand, initiatives adopting samples and analogues that have already proved their efficiency. In our research we

9 The relevance of such an application is greater, if the whole system of education of Russian managers accepts the usefulness and need for innovation processes in firms and in sectors of industry. A real improvement in the educational level of managers can already be seen to activate innovation processes in firms.

have compared the activity of two groups of firms: participants and non-participants in the Presidential Program. The comparison was made regarding three stages of the innovational process:

– Creation of preconditions for formation and activization of innovation processes
– Intensification of innovation processes
– Adoption of 'know-how', of duplicated samples of new technologies.

Let us consider them in order. The essential precondition for the mobilization of innovative processes in firms is subscribing regional and federal structures which specialize in developing the innovation activity of firms, such as various funds to support innovation, regional systems of coordination of venture innovation projects, etc.

The importance of St. Petersburg to the economic life of the country and to foreign partners is so great that among Russian cities it is one of the leaders regarding the presence of various funds and programs specializing in support for innovative processes regarding programs of innovational activity carried out in the city. Also, the regional administration is to some extent inclined to support firms to improve production and raise their innovation potential. It is natural that firms of various types are inclined to different extents to take advantage of such opportunities. Accordingly, the activity of firms connected to the aforementioned programs and funds and the support of the administration acts as a natural indicator of the up-to-dateness of these firms and as an indicator of the development of their innovation potential. Data on this activity is presented in Table 8.22. As can be seen in this table, the named indicator clearly testifies to the benefits for firms whose managers have taken part in the Presidential Program.

Table 8.22
Usage by firms of the external support (%)

Degree of activity of firms	**Use of various funds for supporting innovations**		**Use of 'support of venture innovation projects'**		**Collaboration with St. Petersburg administration**	
	Firms – participants in the Presidential Program	Firms – NON-participants in the Presidential Program	Firms – participants in the Presidential Program	Firms – NON-participants in the Presidential Program	Firms – participants in the Presidential Program	Firms – NON-participants in the Presidential Program
Used to the full	0.0	0.0	0.0	0.0	1.9	3.8
Used appreciably / to a significant extent	1.9	0.0	1.9	3.8	9.6	11.5
Used to an average extent	11.5	0.0	7.7	0.0	9.6	0.0
Used little	9.6	7.7	5.8	0.0	15.4	11.5
Not used	38.5	34.6	23.1	19.2	40.4	42.3
No information about this practice	28.8	34.6	50.0	42.3	19.2	19.2
Not necessary for the firm	9.6	23.1	11.5	34.6	3.8	11.5

From the table it can be seen that the activation of 13.4% of firms in searching for and using federal and regional funds supporting innovation processes identified in the questionnaire by the formulations ‘to a significant’ and ‘to an average extent, is an advantage created by the Presidential Program.

Another advantage can be seen in the system of ‘support for venture innovation projects’ created in the region. Regarding subscribing to the regional system of ‘coordination and support of venture innovation projects’ the activity of those firms whose experts participated in the Presidential Program is higher. The inclusion of such innovation activity in firms is a natural consequence of the influence of the training of the Program. 9.6% of firms who participated in the program use these systems ‘to a significant’ and ‘to an average extent, whereas for ‘regular firms’ this parameter is 3.8%. In addition, an advantage of the Program is that an additional 5.8% of firms are at the initial phase of use of the system of ‘coordination and support of venture innovation projects’, in other words those who use the named system little.

According to the data, firms-participants in the program are more active in searching for constructive business partnerships and in constructing connections with institutional environments. Interaction with the Committee for Economic and Industrial Policy of the Administration of St. Petersburg serves as an example of this. It is apparent that among firms who participated in the program 36.5%, with differing degrees of intensity, aspire to cooperate with the Committee for Economic and Industrial Policy of the administration of St. Petersburg, that is in 9.3% higher than is typical of regular firms. However, the share of firms most actively cooperating with the committee among those who participate in the Presidential Program is slightly lower than in other firms.

When we speak of the intensity of innovational activity itself, the advantages for those firms whose managers have participated in the program appear to be even more appreciable. This is traced by such attributes as the introduction of new technologies, the intensification of research and development. We shall consider these in order.

Table 8.23
Activity of firms in the introduction of innovations (%)

Degree of activity of firms	Introduction of new technologies		Intensification of research and development, R&D		Acquiring information and telecommunication technologies	
	Firms – participants in the Presidential Program	Firms – NON-participants in the Presidential Program	Firms – participants in the Presidential Program	Firms – NON-participants in the Presidential Program	Firms – participants in the Presidential Program	Firms – NON-participants in the Presidential Program
Used to the full	9.6	7.7	5.8	0.0	11.5	3.8
Used to a significant extent	13.5	7.7	9.6	7.7	7.7	15.4
Used to an average extent	21.2	7.7	9.6	11.5	17.3	11.5
Used little	32.5	34.6	30.8	15.4	25.0	15.4
Not used	21.2	19.2	34.6	42.3	28.8	34.6
No information about this practice	0.1	7.7	3.8	7.7	3.8	3.8
Not necessary for the firm	1.9	15.4	5.8	15.4	5.8	15.4

If we compare participating firms with non-participating firms, it emerges that participating firms are 21.2% more active, i.e. 'to the full', 'significantly' and 'to an average extent, concerning the 'introduction of new technologies' when compared to non-participating firms. This contrasts with 15.4% of regular firms, who still occupy a traditional role – a passive – waiting position in relation to technological innovations, believing that it is not necessary for them. The same is shown in relation to intensification of research and development, R&D. 55.8% of firms who participated in the program understand that intensification of R&D is a major success factor in market competition, this is 21.2% more than is the case in regular firms. The conservatism of other firms hoping to survive in the market without intensification of R&D was apparent here as was also the case in the previous table.

When we compare groups of firms concerning such parameters as the development of innovations in information and telecommunication technologies, the contrast turns out to be less, but not non-existent. The firms who participated in the program are 15.4% more likely to achieve competitive success due to the development of innovations in information and telecommunication technologies than to those firms who did not participate. An advantage for firms who participated is also shown by the fact that to the most intensive degree, in other words 'to the full', these firms acquire information and telecommunication technologies 7.7% more often, than other firms.

The data of our research confirm that in Russia there is ongoing a process of capitalization of education. Capitalization of the education of managers is one of the sub-divisions of the general area of capitalization of education. The increased education of managers has both direct favorable consequences for the general growth of a firm's capital, and indirect favorable consequences, when the higher level of education of

managers represents itself as social capital; in other words, managers more actively build networks of contacts with various social subjects of the region which render support for technological and innovation development of firms.

However, the general social and economic situation, in which modern Russian firms are functioning, still is not favourable. Upgrading of the education of managers barely supports the growth of the economic success of firms. Inertia of stereotypes of the past resists attempts by highly educated managers to introduce effective innovations in firms. In this sense, a certain conservatism among leaders of firms and the prevalence of power/force factors of business activities detract appreciably from the social capital of education of managers and so from the capital of education. Accordingly, the process of capitalization of the education of Russian managers is in its early stages of the development. It is even possible to say that today the education of managers is only accumulating potential: the ability to act in the future as an accelerator of production development and economic growth.

However, improvement in the education of managers will be positive factor in the firms' long-term success. Managers, who have received further education, including training in firms of advanced countries, form a specific layer of experts important for the development of the economy. Their new role as leaders of education compels them to persistently search for ways of demonstrating the advantages of higher qualifications. Such managers find ways to raise the technological and organizational level of the firms in which they are employed. One of the directions where such managers can confirm and deserve the reputation of leaders of education in the eyes of leaders and colleagues is the increase of the innovation potential of their firms. And in this direction the improvement in managers' education vindicates itself most of all. In this direction the capital of education of managers, its social capital, proves its efficiency. It is even possible to say that firms who participated in the Presidential Program act as leaders in creating regional innovation networks of economic growth.

In this respect it is possible to say that in Russian conditions, following the countries of the west, a learning economy is gradually taking shape. There are still many firms whose leaders have not had time to master the specific rules of behavior of a learning economy and do not yet accept direct nor indirect lessons received. However, these lessons will soon start to indirectly penalize such firms by the loss of the ability to compete. The prospects for the introduction of the Russia into the WTO will further increase the necessity to search for and master new knowledge, to upgrades the education of managers and to better appreciate and reproduce the capital of education of managers.

Accelerators of this process are firms partly or completely under foreign ownership operating, functioning both in Russia and elsewhere. These firms give strong motives for advanced and go-ahead managers to achieve a higher level of education. Such firms provide examples of how necessary it is to appreciate the high qualifications of managers and how it is necessary to have such experts in the personnel. Global market factors, real challenges of ubiquitous competition create favorable conditions for an increase in the capital of education of managers and for the growth in its social capital.

Conclusion

For the last two decades the economic and social life of Russia has undergone a profound transformation. Generally countries on their way through transformation pay a serious price for progressive changes. However, the price of the reforms in Russia appeared to be much higher than assumed at the beginning of the transformation processes. The deepest recession in the economic and social life of the country came at the end of the 1990s. In this period in the Russian Federation the ability to operate economic processes was partly lost; the development of the industry has *de facto* switched to the so-called "low road" of technological development, the economy has acquired a distinct resource orientation. The return of the industrial development to the "high way" was impeded by weakness in the education system, by the decline of systems of basic and applied science. By this time, with rare exceptions, scientific schools had been destroyed, the number of employees occupied in science and R&D focused on industry was reduced by more than 60%. Dramatic aging of the personnel has taken place in the sphere of science and education. The total number of design offices was reduced to less than a third.

At the same time, however, modern processes of globalization deprive the countries "lagging behind" of some of their opportunities, on which their population or governments had relied. However, the same processes create a number of new specific opportunities for the country. In fact, when it is a question of the determination of the processes of transformation of the Russian economy and of education in an environment, their analysis should be focused decisively on the international division of labor. This division of labor stimulates countries with high economic and technological development to focus on high and science-intensive technologies. Whereas most mass technologies are naturally transferred to the countries which are capable of reproducing them, Russia still has sufficient potential to undertake the realization of such technologies of an "average/mid level". This opportunity is especially valuable, since it may be missed if the wrong choice is made for the strategy and tactics of development of the country and its regions.

The development strategy of the Russian Federation is an important element of the strategy for the development of education, where the education of managers plays a prominent role. In the present study characteristics of the training of Russian managers in the specific conditions of economic transformation were considered. Two major aspects of this training were analyzed:

- Formal training – training in special educational institutions;
- Informal training – training on-the-job, when the manager upgrades his formal qualification and his communicative competence due to functioning in the business environment, and also in a wider social environment.

In reality, the contents of the instruction taken by a manager from both these modes of training frequently do not converge. Thus, both channels of managerial training are now undergoing intensive processes of transformation, during which both their positive and negative aspects are being revealed. The characteristics of these processes are fundamentally caused by profound processes of transformation in the economic and social life of the country as a whole, a change of its position in the global economy.

The system of training managers in special educational institutions has proven extremely adaptable and flexible. For the period from 1991 to 1995 the curricula of the overwhelming majority of HEIs, business schools, training courses for managers have rejected training standards characteristic of the previous period, the prevailing of a planned economy; they have mastered techniques of teaching and programmes of courses implemented for managers in the countries of Western Europe and the U.S.A. The faculties experienced no serious difficulties in the transition from a scheduled paradigm of teaching to a market paradigm. The system for training managers was essentially commercialized, and expanded considerably due to a private educational services sector. By 2003 almost 70% of universities, business schools etc. were privately owned.

In the Russian Federation the rapid process of adaptation of the system for training managers to the conditions of a market economy, to processes of globalization is currently ongoing. An essential aspect of such a transformation is the capitalization of managerial education. The training of managers has come a long way from the Soviet past. The number of non-state HEIs will soon be equal to the number of state HEIs. The Russian system for training managers is included in the open global information, educational system. Training programs, textbooks, teaching techniques are based on the prototypes most popular in the advanced market economy countries. In this sense, economic science, business culture, and the theory of management of the advanced countries of the West have served as one of the major teachers/trainers for modern Russian managers.

The process of the diversification of education into that ‘for ordinary people’ and ‘for the elite’ is an important component of the capitalization of education in Russia. This process is in its infancy. Today only individual HEIs of the Russian Federation have managed to acquire an ‘elite’ reputation. The practice of public recognition of HEIs according to their efficiency is gradually becoming habitual. It has not yet become a real tool of practical activities of firms employing experts in higher education. Accordingly, the information transparency of the activity of HEIs and the public nature of the ranking of their efficiency has not yet been achieved.

At the same time, however, the system has demonstrated its incompleteness, which is especially evident regarding the information society. Adapting to a situation of deep anomiein the social and economic life of the country, of a loss of strategic reference points in the development of the economy and industry, education was mainly focused on such transmitted knowledge and skills which satisfied the current demands of managers, the leaders of firms. Programmes for the training of managers in HEIs, on courses for the training and improvement of the professional skills of managers on programs such as the Programme on Training Managers and Executives

for the Enterprises of National Economy of the Russian Federation (Presidential Programme) did not include information on the efficiency and expediency of the choice of an innovative way of development or on the expediency of the construction of innovation networks. The majority of managers have illusions about the adequacy of their own competence, since the contents of training programs did not give information on an imperative need for the strategic development of manufacture, the necessity for innovational strategy. Thus, they have no opportunity to see the problem where it really exists, which dangerously increases its significance. The dominating motivation of the overwhelming majority of Russian managers trained on programs for the improvement of professional skill and training programs in advanced western firms, are focused on the achievement of immediate objectives.

At the same time, it became clear that formal training of managers not act as such a 'bottleneck'. The formal training does not hinder the introduction of those new managerial practices and market strategy in Russian firms that provide natural success to western firms. In reality, informal training, training at the workplace is a 'bottleneck'.

Informal training is also characterized by two specific aspects of the transfer of knowledge and experience:

- Formation of fundamental attitude to subjects in the social environment, the degree of identification of a manager with a social environment, the level of trust in social actors in the environment
- Learning of concrete functioning practices, namely managerial practices.

The social and economic reality of modern Russia has acted as an original and unshakable teacher for the majority of working managers. The transformation process in Russia was delayed and occurred at a time of major social conflict, now that the existing actors were ready to restore an earlier social and economic structure. In these conditions Russian managers have learned a series of tough lessons. Such lessons have shown them that trust in the basic actors of a social environment, which they tested at the beginning of the process of reform, has resulted in losses for many of them. A significant number of firms whose managers placed trust in the domestic financial credit system, in the state credit funds, and federal and regional state bodies of industrial development, have gone bankrupt. The lessons learned are, apparently, for the long term. The studies analyzed in the research have shown that the trust of Russian managers in the basic actors of a social environment has dramatically diminished nowadays. Managers hardly identify themselves with society and its basic institutions. The training of modern Russian managers in practice has given them a specific and rather negative experience, i.e. the skill of functioning in deep social *anomie*. As a result of such lessons given by the immediate economic reality, the overwhelming majority of managers have experience of the acceptability, and sometimes even the necessity of less than civilized business dealing of the period of the initial accumulation of the capital. Alas, such a style of business dealing in instable conditions essentially reduces individual risks. Instead of following the balance of interests of all participants of business processes along with their own, they have acquired the ability to ignore

the interests of actors in the social environment. Many of the managers began to engage in shady business, to evade taxes, and to default on obligations to their business partners, and this became a universal practice. The majority of managers analyzing their experiences developed internal subjective confidence that practically all the social institutions governing and regulating their present business, are generally a parasitic superstructure above business, where most of the officials are corrupt.

Most managers were trained by practical experience in mistrust of the personnel of the firms in which they were employed. For these managers it is typical to increase and emphasize the aspiration to maintain social distance between themselves and ordinary workers. The attempts of some leaders to improve the social security of ordinary workers appears in the eyes of such managers as disloyalty to the present social and economic system. In such deep *anomie* in a country there is neither a serious concept nor a sufficient social base for social partnership of the various actors in society. The formation of an innovation economy, or the construction of a full complex of innovation networks is therefore impossible.

This position was aggravated since until the beginning of 2005 neither the federal government nor the governments of the regions understood measures to formulate an active industrial policy, or to try to master the concept of innovational development, and did not take an interest in the creation of the necessary innovational network for representatives of business. Therefore the overwhelming majority of managers until 2005 were not familiar with innovation economy concepts at all. Most of those, who nevertheless received information on such concepts, perceived the ideas of the formation of an innovative economy and appeals to build innovation networks as unreal in Russian conditions.

At the same time this study has revealed a narrow, but quite appreciable layer of managers who have a fairly high level of identification with society and its basic social institutions. For them a steady positive direction towards an innovative development of the economy as a whole, and their own firm is characteristic. For these managers readiness to form and develop social partnerships in the wide sense of the word is typical. In this context the 'tripartite' model, as it exists in a number of countries, is perceived by them as an essential part of social partnership. However, from their point of view, it has wide potential which today is not realized and is not yet used. In particular, in their opinion, social partnership in the broad sense of the word is a necessary precondition for the creation and development of innovation networks.

From the point of view of such managers, corruption among officials is not the fundamental source of social *anomie.* They see a chance for the gradual formation of trust between the basic actors of social and economic life in the 'ideology' and practice of the formation of regional and national innovational networks. Managers of this type are inclined to emphasize the accelerated development of partnership between unions of businessmen and unions of employees. In their eyes a special chance is incorporated in main features of learning economy. These managers are sure that businessmen and employees should be trained in partnership practices. These managers are actively intended to participate in various public organizations such as the Union of Industrialists and Businessmen, the Association of Managers, the Association of

Participants of the Presidential Programme. They consider such organizations as the channel for the coordination of joint constructive actions a means of resolving practical problems in operating both companies and regions.

The socially active position of such positively disposed managers, their participation in professional associations and in public organizations allows us to consider them an active, leading part of the middle class, which to a great extent take the social responsibility upon themselves. The chances for the formation of a civil society in Russia are in many respects connected to the prospects of the growth in the number and further activation of these professional managers. They intend to shape an economy open to the international market, to build partnerships with western companies, and to improve the investment climate in the regions and in the country as a whole.

The training of managers by practical action also includes the participation of the manager in decision-making in firms, self-education, and an exchange of experiences with other workers of the firm, including communications both horizontal and vertical. In that case the workplace effectively trains a manager, if the firm is developing fast, when in practice managers feel that the skill level required at their workplace is higher than their present level of skills. As the empirical data have shown, the overwhelming majority of Russian firms are currently more likely to present a negative stimulus to the managers they employ.

Managers in their workplaces are trained mainly during their direct participation in making decisions crucial to the firm's core operations. Therefore, one of the most important conditions for the success of the training is democratic decision-making in a firm, when a probably broader circle of employees takes part in development and decision-making. Accordingly, the most unfavorable conditions for training are an authoritative style of management and decision-making, when decision-making is monopolized by a small group of top managers. In this case, all the other employees have an extremely unfavorable passive role, and no access to significant information on the core activities of the firm, and no part in the decision-making. Unfortunately, in the overwhelming majority of modern Russian firms the decision-making process is rather strictly specialized. There are no tendencies towards the diversification of competencies, when pooling the skills of managers could increase the efficiency of firms. In present Russian conditions the opposite tendency, i.e. greater isolation of managers and increased separation of competences have been strengthened. Contrary to the interests of the business, managers aspire to retain and even to strengthen their competitive advantage as 'leaders of competence'. These managers tended not to give information to other workers in the firm. For this purpose they keep to themselves information that they should transfer to partners according to the logic of the technological process and company regulations.

The shadow economy causes dramatic information blackout on the core operations of firms and their decision-making processes. The management of firms aspires to hide information from the authorities and official control. To maintain an information blackout, leaders should reduce the circle of functionaries inside the firm with access to significant information as much as possible. That is, 'external information blackout'

inevitably also determines information blackout inside a firm. Therefore the climate of the majority of modern Russian firms is unfavorable to the intensification of the process of on-the-job training. The openness of firms could and should stimulate a creative process of search for optimum decisions, a process of expansion of the spectrum and depth of both private and documentary agreements between actors from different levels of the social organization represented by the firm: tripartite agreement, Programme of Democratic Dialogue (LOM-programmes[1]), the agreements strengthening solidarity between management and workers in firms. The most important aspect of such a favorable climate is the trust both in the firm, and in the external social environment. Accordingly, horizontal information flow and exchange in Russian firms is essentially impeded. The level of trust in colleagues and readiness for open partnership with them is critically low. Intensity in relationships between peers means that informal dialogue between managers is rare. The same is true of contacts with ordinary workers. Information interchange among workers is also critically poor. Even practices of exchanging experience, of gathering innovative proposals from the personnel, the quality circles developed in Japan and widely used in the recent past are now very seldom applied. Thus, the training of managers during business dialogue with workers is practically at a standstill. This is decisive for the performance of both workers and managers.

Having lost the chance of the high road to technological development, Russia still has sufficient potential to undertake the realization of more modest technologies. This chance may be lost. The same applies to education**.** Given the present situation in higher education, there is still a chance to train knowledge workers who may still be sought after:

- by foreign firms operating in Russia or abroad
- by Russian industry and economy if the industrial policy is active.

In this sense the international market and foreign firms today appear to be the allies of Russian higher education; they raise its social capital. Foreign firms functioning in Russia effectively serve as drivers of the demand for the development of the higher education of Russian experts and Russian managers. Besides, foreign firms employing graduates of Russian HEIs motivate the entrants to receive higher education**.** Higher education is increasingly popular among Russians, mainly because of the fact that it provides an opportunity for employment abroad. The prospects of the introduction of Russia's WTO membership will further increase the necessity to seek and master new knowledge, to upgrade the education of managers, to better appreciate and to reproduce the capital of education of managers.

Firms located in Russia or abroad which are partly or completely under foreign ownership serve as catalysts for this process. These firms provide strong motives for advanced and go-ahead managers to undertake higher education. Such firms show examples of how very necessary it is to appreciate managers' high qualifications and

1 LOM – Programme of Democratic Dialogue, see Bjorn Gustavsen, 2006, Learning organization and the process of regionalization, In: International Journal of Action Research, 2(3), 319–342. http://www.ecsocman.edu.ru/images/pubs/2005/06/30/0000214827/019_frike.pdf

to invite mainly such experts to be part of the staff. Here it is necessary to make an important note. Globalization is not omnipotent. It does not necessarily mean that managerial practices effective in the western firms become equally effective in the conditions of modern Russian firms. Many managers who had such illusions have experienced disappointments. Managers of some western firms who have affiliated firms in Russia have been convinced that some managerial practices effective in parent firms are very difficult to apply in affiliated firms in Russia (Sippola 2009). It is obvious that it would still require some time in order for specific features of different countries and regions not to have such great influence over the opportunities for the development of management.

Nevertheless, global market factors, real challenges of ubiquitous competition create favorable conditions for the increase of education of managers, for the growth of social capital. On the other hand, the Russian economy and the education of managers are influenced by the countries which are technologically lagging behind Russia, mainly the CIS countries. This influence constitutes a major impediment. Because of heavy streams of illegal migration of labor from the CIS countries the labor market of Russia appears to be imbalanced, the regulatory authorities of this market and the authorities of social protection of the working population of the country appear ineffective. A significant part of managers and production managers are under the illusion that in the CIS regions the resources for the extensive development of manufacturing, such as a labor, which is cheaper than in Russia, are not yet exhausted. Therefore, proprietors and leaders have delayed the curtailing of illegal activities, because for them there are still opportunities to benefit from the use of illegal labor. Because of extent of the 'shadow relations', opportunities for meaningful dialogue between significant social forces of a society are undermined, whereas e.g. tripartite negotiations which can serve as part of such a dialogue have proved their efficiency in Finland, Germany and in other European countries.

Interestingly, however, the increase in the education of managers, with all its difficulties serves as an original stimulus of business activity and has increased its persistence. Managers who have received further education, training in firms of the advanced countries, really form a specific layer of experts with increased constructive ambition. Their new role as pioneers of new learning compels them to search persistently for ways of demonstrating the advantages of their higher qualifications. Stimulated by market competition, these managers find ways to raise the technological and organizational level of the firms in which they work. One of the most productive directions in which such managers can now confirm and deserve the reputation of competence in the eyes of superiors and peers and increase innovational potential of the firm, and in this direction increase in the training of managers has started to prove itself today. In this direction the capital of education of managers and the social capital prove their worth. Due to this, firms participating in the Presidential Programme had an opportunity to initiate the creation of regional innovational networks of economic growth. Accordingly, it is expedient to direct efforts in the infrastructural support of business in the region to the use and expansion of these opportunities.

These processes in the dynamics of the formal and informal training of managers essentially form the social character of modern Russian managers. In fact, in the situation described above, the social capital of education also appears to be inconsistent. On the one hand, higher education is perceived as an almost indispensable condition of employment that has generated *credentialism* in the sphere of the labor relations developed for modern Russian managers. On the other hand, a significant part of really working managers are inclined to believe that the level of higher education stipulated for managers is excessive. The qualification of MBA appears to be little valued although it is prestigious. In addition, the level of technological development of the firms and this typical culture of management in the industry and economy of the Russian Federation lag significantly behind the level achieved by the Russian education system according to the heads of educational institutions.

In modern Russia the capital of higher education is typically poorly converted into increase in the income level of managers. Moreover, during the crisis higher education has impeded the initiative of some managers to operate actively to maximize their incomes. This was also apparent in the converting of education into social professional status. Higher special education serves as a factor for a successful career of a manager but only until he becomes an owner of the firm, or an owner and a CEO. The natural second step is apparently to become the leader of a firm, and this appreciably differs from this logic. Heads of firms are more often those with no higher educational qualification. Thus, the social capital of education during transformational processes may even have some negative sides. This especially concerns periods of social and economic crisis.

Nevertheless, the operation of the present limited active layer of managers is discernible. For this layer orientation towards the further increase of education and professional training is characteristic. In addition, such managers are ready to cooperate with employees, to support the development of a tripartite model. Such partnership, intensive contact with the personnel, serves as a special and especially valuable kind of training. Our statistical analysis revealed two groups of managers with different attitudes. In a sense, these groups differ in the types of the social capital they pursue. The first group is characterized by a syndrome of educational passivity – tolerance of shady connections (shadow economy), tolerance of corruption, and inclination to nationalism. In other words, this group bases its activities on the ‘bonding’ type of social capital. Close communication with partners inevitably leads to inter-learning. Thus, managers of the first group are so-called teachers of ‘bonding’.

For educationally active managers another syndrome is characteristic. This syndrome is educational activity – orientation to innovation, taking distance from corruption, and cosmopolitanism. Such managers are equally identified with both Western values and the values of Russian society. Educationally active managers are inclined to choose more constructive forms of business strategy, namely cooperation and also cooperation with foreign partners, openness to the world market. These managers are oriented to the ‘bridging’ type of the social capital. While communicating with partners, they teach ‘bridging’ as prospective practices of partnership.

These instigators of positive changes have not as yet managed to become the dominant public force. However, the preconditions for this in modern Russia do exist to a certain extent, and the influence of well-educated leaders among managers is on the increase.

This process is intensively promoted nowadays by developing the practice of cooperation of the Russian regions with partners of the EU countries in the creation and development of innovation networks. This cooperation forms networks based on Triple-Helix principles. Managers from administrative bodies, from business and from universities representing different countries cooperate with Russian colleagues; they develop the most effective methods for building innovation networks. Thus, Russian managers, the participants of such international projects are trained in advanced methods of business practices in the shortest time and with the maximum effect.

'SPb Business Campus – a benchlearning network', etc. serves as an example of organizational forms of such training for the immediate future. On the territory of the Russian regions a network including both Russian and EU firms is being created. This is a network for the exchange of experience of successful business practices beneficial to all participants of the network.

The study here reported permits the conclusion that, though inconsistently and at a bearing cost, but step by step and with the help of the countries of the west, a learning economy is indeed taking shape in modern Russia. This learning economy will allow Russia to assume an adequate position in the international division of labor.

Appendix 1.

List of main publications

The author has altogether 43 publications, including 3 monographs. In addition, she has several papers in conference proceedings, and a number of reports related to international projects she participated in. In addition to the list mentioned above the author has published a series of textbooks for university students as an Associate Professor at St. Petersburg State University of Economics and Finance. The most important publications by the present author are the following:

Articles in refereed international scientific journals

*Schienberg S., Korsun A., Sarno A., Sarno I, (1999) Incongruity of "desirable" and "real" in activities of modern Russian managers: anatomy of values' orientation In: Monitoring of social – economic situation and labor market of St. Petersburg. – 1999 – #1–2, pp. 39–49 – *in Russian and in English.*

*Gorelov N, Savitch A, Sarno A, Sarno I, (2000) Trade unions support innovational active enterprises In: Industrial re-structurization in St. Peterburg and social dialogue: problems and ways to solve them. – SPb.: Petropolis, 2000. – pp. 118–140 – *in Russian and in English.*

*Gorelov N.A., Sarno A.A., Sarno I.N. (2000) Managers and specialists of St. Petersburg firms – improvement of innovation activities (Presidential Program for Training of Managers), In: Monitoring of social – economic situation and labor market of St. Petersburg.– 2000 – #3–4 – *in Russian and in English.*

*Blom R., Melin H., Sarno A., Sarno I. (2004) Management and development of innovations in the Russian economy – the case of Industrial Enterprises of St. Petersburg, In: Mir Rossii (Universe of Russia), Vol. X111, 2004, # 2, pp. 134–158. – *in Russian and in English.*

*Blom R., Melin H., Sarno A., Sarno I. (2005) Social Capital, Trust and Managerial Strategies, In: Mir Rossii (Universe of Russia), Vol. XVI, 2005, # 2, pp. 127–151 – *in Russian and in English.*

*Blom R., Melin H., Sarno A., Sarno I. (2006) Corporate responsibility, trust, sustainable development – The case of St. Petersburg´s industrial firms in 2004, In: International Journal of Environment and Sustainable Development, 2006, Vol. 5, #2–3, pp. 147–162 – *in English.*

*Blom R., Melin H., Sarno A., Sarno I. (2006) Social environment and management: direct and return inter-influences – The case of St. Petersburg's firms in 2004, Int. Journal of Business Environment, Special Issue ´Environment and Flexibility in Operations and Strategic Management´, 2006, pp. 336–349 – *in English.*

*Blom R., Melin H., Sarno A., Sarno I. (2007) Social capital raises personnel performance and success of firm's activities – The case of St. Petersburg's industrial firms in 2004, In. Sociological Problems, Bulgarian Academy of Science, 2007, 15 p.

*Blom R., Melin H., Sarno A., Sarno I. (2007) Managerial threats and prospects in Russian firms – The Case of St. Petersburg 1999–2005, In World Review of Entrepreneurship, Management and Sustainable Development (WREMSD), Special issue on Entrepreneurship and Sustainable Development in Transition Economies, 2007, 14 p.

*Blom R., Melin H., Sarno A., Sarno I. (2007) Education of managers – factor of sustainable development – The Case of Russian firms in 2001–2004, In: International Journal of Environment and Sustainable Development, 2007, 15 p.

Articles in refereed international scientific edited volumes and in refereed international scientific conference proceedings

Blom R., Melin H., Sarno A., Sarno I. (2004) Management in Russian firms: Growth of Innovational Potential – The Case of St. Petersburg's Industry in 1999–2004. In: New Europe 2020: Visions and Strategies for Wider Europe – 2004. http://www.tukkk.fi/pei/NewEurope/SessionB2/Blom%20et%20al.pdf

Blom R., Melin H., Sarno A., Sarno I. (2005) Participation of Russian Managers in Processes of Capitalization of Knowledge – The case of Russia in 2001–2003 In: Triple Helix 5 The Capitalization of Knowledge: cognitive, economic, social & cultural aspects, Turine, Italy May 18–21, 2005, 3 p. http://www.triplehelix5.com/pdf/A139_THC5.pdf

Blom R., Melin H., Sarno A., Sarno I. (2005) Openness of firms towards a social environment and their social responsibility –The case of St. Petersburg's industry in 2004 In: Foresight Management in Corporations and Public Organisations – New Visions for Sustainability 9–10 June, 2005, 12 p. http://www.tukkk.fi/tutu/conference2005

Blom R., Melin H., Sarno A., Sarno I. (2005) Capitalization of managers' education – The case of Russia in 2000–2004 In: Rethinking Inequalities, The 7th ESA Conference, September 9–12, 2005, Torun, Poland. http://www.7thesaconference.umk.pl/upload/pr/rn%20sociology%20of%20education_programme.dochttp://www.7thesaconference.umk.pl/upload/ab/rn%20sociology%20of%20education_abstracts.rtf

Blom R., Melin H., Sarno A., Sarno I. (2006) Education of managers as a factor of sustainable development – The Case of Russian firms in 2001–2004, 12th Annual Sustainable Development Research Conference 2006, Hong Kong, 6–8 April, 2006, 12 p.

Blom R., Melin H., Sarno A., Sarno I. (2006) Social and Environmental Responsibility of Firms in Conditions of Deep Transformation Processes – The Case of St. Petersburg's Industrial Firms, XVI ISA World Congress of Sociology, Durban, South Africa, 23–29 July 2006, Sociology of Organizations, 7 p.

Blom R., Melin H., Sarno A., Sarno I. (2006) Dynamics of 'training networks' for managers in conditions of social and economic transformation – The case of Russia and St. Petersburg in 1999–2004, XVI ISA World Congress of Sociology, Durban, South Africa, 23–29 July 2006, Sociology of Education, 9 p.

Blom R., Melin H., Sarno A., Sarno I. (2006) Opportunities for innovational development in the St. Petersburg region: dynamics of managerial practices in 1999–2005. Int. conference "The Future Competitiveness of the EU and Its Eastern Neighbours", Turku, Finland, September 1–2, 2006, 14 p.

Sarno Alfred, Sarno Irina, (2006) Challenges for Innovation Development in Russian Regions, Int. Finnish-Russian Innovation Forum, Tampere, 14–15 September 2006, 9 p.

Sarno, I et al. (2007) St. Petersburg managers on the way of creation of innovation economy. Innovations-journal, No.11, 91–97.

Sarno I (2007) Obuchenie menedzherov na rabochem meste: obuchajushchie seti – keis Rossija I Sankt-Peterburg 1999–2004 (In English: Learning managers on a workplace – Case of Russia and St. Petersburg 1999–2004), In the Int. conference Contemporary Problems of Theory and Practice of Personnel Management, St. Petersburg June 28–29, 2007, 4.

Sarno I (2007) Menedzhery v sisteme nepreryvnogo obrazovanija: otsenka kachestva i perspektiv (In English: Sarno, I (2007) Managers in system of life-long learning: conditions and prospects. Life-long learning for sustainable development: articles of the international cooperation in the field of life-long learning, Vol. 5. (Eds.) Lobanov N.A.and Skvortsov V.N. St. Petersburg, Alter Ego 2007, 308–317.

Irina Sarno et al (2007), SPb InnoReg- Promoting Regional Innovation Development Through transnational Cooperation, In: Problems and ways of the development of innovation

activities in the modern situation, Government of St. Petersburg, Committee for Economic Development, Industrial Policy and Trade, Materials of the Third International Scientific-Practical Conference, 19 October, 2007, St. Petersburg, 2007, 19–23 – *in English.*

Irina Sarno et al (2007), Managers of St. Petersburg as Subjects of the Regional Innovation System, In: Problems and ways of the development of innovation activities in the modern situation, Government of St. Petersburg, Committee for Economic Development, Industrial Policy and Trade, Materials of the Third International Scientific-Practical Conference, 19 October, 2007, St. Petersburg, 2007, 28–35 – *in Russian.*

Sarno, I. (2008) Education of managers in a transforming economy: prospects and difficulties of capitalization. *Managers in Russian: Still so different?* (Ed.) Raimo Blom. Helsinki, Aleksanteri Instituutti 3:2008, 76–106.

Sarno, I. (2008) The capital of trust and the shadow economy *Managers in Russian: Still so different*? (Ed.) Raimo Blom. Helsinki, Aleksanteri Instituutti 3:2008, 106–134.

Sarno, I (2009) Education of managers and sustainable development of a society. Life-long learning for the sustainable development: international cooperation in the field of life-long learning, Vol. 7. (Eds.) Lobanov N.A. and Skvortsov V.N. St. Petersburg, 195–201.

Sarno, I et al (2010) Dynamics of a motivational component in continuous education – Case of St. Petersburg managers 1998 – 2009. Life-long learning for the sustainable development: international cooperation in the field of life-long learning, Vol. 9. (Eds.) Lobanov N.A. and Skvortsov V.N. St. Petersburg, 184–192.

Sarno, I. (2011) Learning economy in the Baltic Sea region – an experience of the Finnish-Russian cooperation, Baltic Rim Economies, Quarterly Review, 21 December, 38–39.

Scientific monographs published abroad

Sarno A., Sarno I. (1990) Social aspects of improving the system of material incentives of labor in vocational and technical education / St. P. University of Economics and Finance.--SPb, 1990. – Dep. 13.06.90. – N 42107. – 57 p. – *in Russian.*

Sarno A., Sarno I. (1990) Support of the pedagogical process by the department of scientific and technical information at Higher Economic Institutes / SPb: LIEF,1990. – Dep. in NIIVSH 08.06.90, № 1077–90. – 185p. – *in Russian*.

*Blom R., Melin H., Sarno A., Sarno I. (2007) Managers and management in Russia: conditions and prospects – The Case of St. Petersburg in 1999–2005, St. Petersburg University of Economics and Finance Publishing House, 220 p. – *in English*.

*Blom R., Melin H., Sarno A., Sarno I. (2008) Menedgery I menedzhment v Rossii: sostojanie I perspektivy – The Case of St. Petersburg in 1999–2005, St. Petersburg University of Economics and Finance Publishing House, 220 p. – *in Russian*

Other scientific publications, such as articles in non-refereed scientific journals and conference proceedings, and publications in university and department series

Sarno I, (1999) "Teams", or corporate psychology of successful organizations, In: Social issues of labor relations in transformation period – Samara: Samara State University, 1999, 290–297.

Sarno A.A., Sarno I.N. (2002) Business education of Russian managers, In: Problems of economic education. SPb: University of Economics and Finance, 2002. 39–45.

Sarno A.A., Sarno I.N. (2003) Motivation of labor of young specialists – social capital of the region In: On the way towards civil society. Problems of the XXI century youth. SPb: University of Economics and Finance, 2003. 135–138.

Sarno A.A., Sarno I.N. (2003) Learning managers in a transforming economy. In: Actual problems of quality of education in business administration at the university. – SPb, University of Economics and Finance, 2003. 106–115.

Sarno A.A., Sarno I.N. (2003) Managerial strategies in personnel management. In: Human resources management: theory and practice.– SPb: University of Economics and Finance, 2003. 26–31.

Sarno A., Sarno I. (2004) Personnel management, trust as social capital of a firm, In: Theory and practice of personnel management – SPb: University of Economics and Finance, 2004. 21–25.

Sarno A., Sarno I. (2005) Obrazovanie menedzherov – strategicheskij rezerv razvitija ekonomiki, (Education of managers as a strategic reserve of the development of the economy), In: Sistema podgotovki ekonomistov vysshei kvalifikatsii: tendentsii, problemy, perspektivy (System of preparing of economists of the highest quality: tendencies, problems, perspectives) – SPb: University of Economics and Finance, 2005. 84–92.

Sarno I. (2006) Obrazovanie kak factor uspeshnosti menedzherov v firmakh razlichnykh form sobstvennosti (Education – factor of successful activities of managers in companies of different types of ownership), In: Evropeiskoe obrazovatel'noe prostranstvo (European Education Environment), Vol. 1 – SPb – Bernburg, 2006, 219–224.

The preliminary findings of the study have been presented at International Conferences

1995 International congress. Qualification, employment – 95 (St. Petersburg, Russia).

1996 American National Congress. American Higher Education Association. (Chicago, USA) – *presentation* VI ICCEES World Congress (Tampere, Finland) – *presentation.*

2002 eTampere Symposium. Cross-border Business Cooperation: Tampere – St. Petersburg – Baltic Sea Region.

1998 International congress. Telecommunications and national security (St. Petersburg, Russia) 2003 12th Annual Seminar, BOFIT "Russia: back to centralization, back to regions?" Helsinki, September 29, 2003.

2003 Human Resources Management, St. Petersburg Russia, Dec 12–13, 2003 – *presentation.*

2004 Seminar on Social Capital and Social Change in Russia, 23 January 2004. The University of Tampere Attila – *presentation.*

2004 Personnel Management: Theory and Practice, St. Petersburg, Russia June 2004 – *presentation.*

2004 Socially Responsible Enterprise Restructuring, St. Petersburg, Russia June 10–11 – *presentation*

2004 New Europe 2020: Visions and Strategies for Wider Europe – 2004, August 27–28 Turku – *presentation.*

2004 13th Annual Seminar, BOFIT "Russia: Excessive Natural Resource Dependence?" October 4, Helsinki Finland.

2005 V Symposium for Russian and East European Studies, March 17–18, 2005. Tampere, Finland – *presentation.* http://www.uta.fi/laitokset/isss/monnetcentre/vie/workshops.html#changes

2005 Triple Helix 5 The Capitalization of Knowledge: cognitive, economic, social & cultural aspects, Turine, Italy May 18–21, 2005 – *presentation.* http://www.triplehelix5.com/pdf/A139_THC5.pdf

2005 Foresight Management in Corporations and Public Organisations – New Visions for Sustainability 9–10 June, 2005. – *presentation.* http://www.tukkk.fi/tutu/conference2005

2005 The 11th Annual International Sustainable Development Research Conference, special session on 'The Contribution of Sustainable Investments to Sustainable Development', Finlandia Hall, Helsinki, Finland, June 6–8, 2005. – *presentation.* http://www.uta.fi/conference/sdrc2005/

2005 Rethinking Inequalities, The 7th ESA Conference, September 9–12, 2005, Torun, Poland – *presentation.* http://www.7thesaconference.umk.pl/upload/pr/rn%20sociology%20of%20education_programme.doc http://www.7thesaconference.umk.pl/upload/ab/rn%20sociology%20of%20education_abstracts.rtf

2006 Kehittyvä Venäjä – Haasteet ja Mahdollisuudet, 15.3.2006, The University of Turku – *presentation.*

2006 The 12th Annual International Sustainable Development Research Conference 2006, Hong-Kong, 6 – 8 April, 2006 – *presentation.*

2006 XVI ISA World Congress of Sociology, Durban, South Africa, 23–29 July 2006 The Quality of Social Existence in a Globalising World, Research Committee on Sociology of Education and on Sociology of Organizations – *two presentations.*

2006 International conference "The Future Competitiveness of the EU and Its Eastern Neighbours", Turku, Finland, September 1–2, 2006 – *presentation.*

2006 Challenges for Innovation Development in Russian Regions, Int. Finnish-Russian Innovation Forum, Tampere, 14–15 September 2006 – *presentation.*

2007 Int. conference Contemporary Problems of Theory and Practice of Personnel Management, St. Petersburg June 28–29, 2007 – *presentation.*

2007 Problems and ways of the development of innovation activities in the modern situation, Government of St. Petersburg, Committee for Economic Development, Industrial Policy and Trade, the Third International Scientific-Practical Conference, 19 October, 2007, St. Petersburg, 2007 – *two presentations.*

2008 Baltic Sea Region Programme 2007 – 2013: new partnership opportunities for Russian and Belarusian regions – *two presentations.*

2008 First International Innovation Forum, October 1–2, St. Petersburg – *presentation.*

2009 SPb InnoReg Innovation seminar, 14–16 April 2009, Helsinki – – *presentation*.

2009 Second International Innovation Forum, 30 September, St. Petersburg – *presentation.*

2010 Third Innovation Forum, 1 October, St. Petersburg – *presentation*.

2011 *St. Petersburg Partneriat*, 15–17 March, St. Petersburg.

Appendix 2.

Characteristics of the study and official statistics for Chapter 6.3.

Data of our survey conducted in January, 2000 was used for the analysis. This was a questionnaire study of managers and specialists of 270 firms in St. Petersburg participating in The Programme on Training Managers and Executives for the Enterprises of National Economy of the Russian Federation (Presidential Programme). The distribution of firms participating in the survey by branch is shown in Table 1.

Table 1
Distribution of firms by branches of the economy

Branch	(%) from an aggregate number
Mining industry	1.1
Power engineering	4.1
Forest industry and branches related	4.1
Chemical, petrochemical and pharmaceuticals	1.5
Metallurgy	2.6
Engineering and metal working	6.7
Electrotechnical and electronic industry	8.9
Food-processing industry	4.8
Light industry	4.1
Construction	6.7
Agriculture	0.0
Retail trade and public catering	4.8
Wholesale trade	12.6
Information services, advertising, marketing	10.7
Education, science, culture	3.7
Housing-municipal services, services to the population	2.6
Finance and insurance	4.1
Transport services	5.6
Other kinds of activities	11.5
Total	**100.0**

In order to compare the structure of the branches of 270 firms surveyed with the general structure of firms in the real economy of the city, Table 2 was compiled. In the right-hand column is the structure of the firms surveyed and in the left-hand column the structure of firms in the real economy of St. Petersburg.

Table 2
Distribution of registered firms by branches of the economy (units)
at the beginning of 1999

Branches	(%) data by official statistics (Goscomstat)	(%) survey data
Industry	14.6	37.9
Agriculture	0.4	–
Forestry	0.0	–
Construction	11.0	6.7
Transportation and communication	2.7	5.6
Trade and public catering	42.2	17.4
Information and computation service	0.5	2.6
Operations with real property	0.9	–
General commercial activity on maintenance of operation of the market	3.8	8.1
Geology and prospecting of entrails, geodesy and hydrometeorology	0.1	–
Housing – municipal services	1.6	1.8
Non-productive consumer services of the population	0.8	0.8
Public health services, physical culture and social security	3.3	–
Education	1.7	3.7
Culture and art	1.8	
Science and scientific services	5.6	
Finance, credit, insurance, provision of pensions	1.2	4.1
Controls, administration	0.9	–
Public associations	3.6	–
Other	3.0	11.5
Total (%)	**100**	**100**
Total (units)	**166.485**	**270**

From the data above it is apparent that the structure of firms participating in the survey differs significantly from the real structure of firms by branch. Thus there are in 23.3% more industrial firms in the sample than in the real economy of the city, whereas firms in trade and public catering are conversely 24.8 % less than in the real economy of the city. At the same time, the majority of branches of the economy of the city are represented? in the sampling of firms surveyed. It is possible to consider that the tendencies revealed as a result of the analysis have no essential deformations.

If we take into consideration the part of surveyed firms that represent industry, they correspond even more closely to the real branch structure of the real economy of the city. This is apparent in the data of Table 3.

Table 3
Branch structure of industry of St.-Petersburg (in %)
at the beginning of 1999

Industries	(%) data by official statistics (Goscomstat)	(%) survey data
Electric power industry	0.6	13.2
Fuel industry	0.4	1.9
Black and non-ferrous metallurgy	3.0	8.4
Chemical and petrochemical industry	4.6	4.8
Engineering and metal working	48.3	21.4
Wood, wood-processing and pulp and paper industry	7.1	13.2
Industry of building materials	4.6	8.4
Light industry	10.6	13.2
Food processing industry	10.4	15.5
Other	10.4	0.0
Industries, total	**100**	**100**

The main defect in the sampling is in the engineering and metal working branches, where the combined share is 26.9% less than in the real industry of St. Petersburg. Firms in the electric power industry appeared to be 12.6 % more than in the real industry of the city. Certainly the extent to which the structure of the firms surveyed firms corresponds to the structure of real firms of the city in patterns of ownership is important. Table 4 was compiled to demonstrate this.

Table 4
Pattern of firms and organizations by patterns of ownership (in %)
at the beginning of 1999

Patterns of ownership	**(%) data by official statistics (Goscomstat)**	**(%) survey data**
State	2.9	10.6
Property of public associations	5.2	–
Private	78.5	78.9
Joint venture (with participation of Russian and foreign capital)	3.1	10.5
Mixed Russian property (without foreign participation)	3.7	–
Property of foreign legal persons, residents and non-residents	2.1	–
Other patterns of ownership	3.7	–
Total	**100**	**100**

The structure of firms surveyed by pattern of ownership appears to be fiarly close to the structure of firms in the real economy of St. Petersburg. The tendencies revealed and outlined here are fairly close to those which nowadays create the situation in the economy of the city, and in the country as a whole.

Appendix 3.

Tables

Table 4.1
Prestigious professions and occupations 2003 (% to a number surveyed)

Professions	Named as the "best for a young man"	Named as the "best for myself personally"	Who will you be in the future? (Answered by schoolchildren only)
Businessman, entrepreneur	40	10	6
Programmer	30	8	9
Lawyer (lawyer, judge)	29	8	7
Economist (bookkeeper, financial worker)	24	11	8
Doctor/physician	21	6	5
Manager, administrator	16	5	4

Table 4.5
Are you currently studying? (%)

A kind of education	Number of those with this kind of education, in %		Change of evaluations from 2000 to 2003
	2000	2003	
1. Self-education	76.7	78.7	2.0
2. Other informal kinds of education	21.2	20.4	-0.8
3. In HEI	14.6	11.6	-3.0
4. Postgraduate course	3.9	5.9	2.0
5. Business school evening training	0.7	4.7	4.0
6. Employing a private/individual trainer	3.3	7.1	3.8
7. Business school day time training	0.6	1.7	1.1
8. Master degree	0.9	0.5	-0.4
Total			**8.7**

The sum of both columns is over 100%, because when answering the respondent could choose more than one response.

Table 4.7
Priority motives of managers to continue education (%)

Motives	Number of those with this kind of motive, in %		Change of evaluations from 2000 to 2003
	2000	2003	
1. I want to master scientific management	48.9	48.8	-0.1
2. I want to broaden my outlook	46.0	47.8	1.8
3. I want to master modern technologies	22.4	22.0	-0.4
4. I need it to get promotion	9.4	12.5	3.1
5. I need it to get a well-paid job	13.4	11.2	-2.2
6. I need it to get a prestigious job	13.2	9.3	-3.9
7. I need it to get an interesting job	7.7	8.7	1
8. I need a document confirming special education	5.1	5.0	-0.1
9. Other reasons	9.6	12.2	2.6
Total			**1.8**

The sum of both columns is over 100%, because when answering the respondent could choose more than one response.

Table 5.1
Number of enterprises and organizations using a lease contract
(as of October 1, 1988)

Branches of a national economy	Number the organizations using a lease contract	Number of employees in organizations using a lease contract	Number of the organizations, where only a some divisions is using a lease contract	Number of divisons	Number of employees in divisions using a lease contract
National economy as a whole	109	51.9	508	3200	71.9
Industry	58	25.3	135	359	15.2
Construction	15	7.7	44	452	6.2

Table 5.2
Activity of strategic planning

Managerial practices	2000	2005
1. Application of benchmarking, becoming acquainted with the competitors experience, monitoring of their and own rating	2.18	2.75
2. Application of SWOT analysis	0.95	1.52
3. Regular development and correction of the strategic plan	2.81	2.87
Weighted mean estimation	2.01	2.37
Dynamics of activity from 2000 to 2005	0.36	

Table 5.3
Offensive competition strategy

Managerial practices applied	2000	2005
1. Gaining success in competition mainly due to taking a monopoly position in the market	2.23	2.96
2. Gaining success in competition mainly due to making the price for products lower	2.69	3.48
3. Gaining success in competition mainly due to fast delivery of services	2.78	3.06
4. Gaining success in competition mainly due to finding new markets for products	3.26	3.07
Weighted mean estimation	2.77	3.13
Dynamics of activity from 2000 to 2005	0.36	

Table 5.4
Formation of image of firm

Managerial practices applied	2000	2005
1. Gaining success mainly due to good reputation of a firm, intensive charity activities	2.55	1.81
2. Gaining success mainly due to effectiveness of own PR	1.65	1.71
3. Participation in Russian Quality Award competition	1.42	1.39
Weighted mean estimation	1.82	1.63

Table 5.5
Quality management

Managerial practices applied	2000	2005
1. Gaining success mainly due to improving quality of production	3.47	3.33
2. Application of Total Quality Management System (TQM)	1.66	2.27
3. Introduction of quality standards like ISO – 9000, Lloyd's Standard, etc.	1.85	1.89
4. Participation in Russian Quality Award competition	1.42	1.39
Weighted mean estimation	2.09	2.21

Table 5.6
Increase of self-organizing of the personnel

Managerial practices applied	2000	2005
Organization of quality circles, effective in Japan	0.91	1.02
Organization of collective organs like Council of Employees, Council of Work Collective, etc.	1.28	1.30
Participation of employees in programs like LOM-program, program of Democratic Dialogue	0.77	0.71
Organization and support for trade unions in a firm	1.60	1.77
Support for tripartite practice – making agreements among three parties (employers – trade unions – state), joint consultations, collaboration	1.04	1.23
Weighted mean estimation	1.11	1.20

Table 5.7
Innovative development

Managerial practices applied	2000	2005
1. Doing information business, selling program products, patents	1.15	1.45
2. Gaining success mainly due to intensification of R&D	1.96	2.24
3. Usage of system of coordination and support of venture innovation projects in St. Petersburg	0.93	1.15
4. Active collaboration with techno parks	1.40	1.61
Weighted mean estimation	1.36	1.62
Dynamics of activity from 2000 to 2005	0.26	

Table 6.2
Distribution of the population employed in the economy by branch (%)

Branch	1997	1998	1999	2000	2001	2002	2003
1. Industry	22.7	20.2	20.0	20.2	20.2	19.9	20.1
2. Agriculture and forestry	0.5	0.5	0.8	0.8	0.8	0.8	0.6
3. Construction	11.2	11.2	11.2	11.5	11.3	11.5	11.6
4. Transport and communications	9.3	9.1	8.9	8.8	8.8	9.1	9.1
5. Wholesale and retail trade, public catering	16.0	19.9	20.6	20.2	20.6	20.8	19.7
6. Housing and municipal services, consumer services for the population	6.4	6.1	5.6	5.3	5.4	5.4	5.1
7. Public health care, physical education and social security	6.9	6.8	6.7	6.5	6.5	6.5	6.5
8. Education, culture and art	10.8	10.9	10.9	10.8	10.7	10.8	11.1
9. Science and scientific services	6.8	5.7	5.3	5.3	5.3	5.1	5.5
10. Finance, credit, insurance, provision of pensions	1.4	1.4	1.2	1.4	1.3	1.3	1.5
11. Administration	3.3	3.8	3.8	3.9	3.8	3.6	3.6
12. Other branches	4.7	4.4	5.0	5.3	5.3	5.2	5.6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Table 6.3
Employment in the St. Petersburg Region

Parameters of employment	1995	1996	1997	1998	1999	2000	2001	2002	2003
1. Number of unemployed (ILO methodology), thousand persons	258	246	232	262	268	152	96	86	102
2. Load of the free population per one declared vacancy by the end of the year, thousand persons	3.6	2.6	1.7	2.3	0.7	0.6	0.6	0.8	0.9

Table 6.4
Sources of means for capital investments (in %)

	1997	1998	1999	2000	2001	2002	2003
1. Financial means of the federal budget	12	4	3	6	18	15.0	14.5
2. Financial means of the local budget	7	10	14	15	11	7.1	9.4
3. Own financial means of enterprises and organizations	50	53	46	45	43	38.9	47.6
4. Other sources (including foreign investments)	31	33	37	34	28	38.8	29.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Table 6.6
Cooperation with firms – partners in the sales of commodities 2001 (in %)

Who executes	Does not execute	1 – very little	2	3	4	5 – completely	Total
Firm	0.8	3.1	7.0	12.4	20.2	56.6	100
Partners	31.0	14.0	15.5	13.2	11.6	14.7	100

Table 6.7
Proportions of distribution to customers of goods produced by the firm 2001 (in %)

Category of customers of firm's production	Share (in %) of total amount
Industrial firms	34.7
Wholesale firms	23.8
Retailers	19.8
Firms producing services	3.8
State, stakeholders	6.7
Cultural, educational bodies	1.6
Public organizations	1.8
Population, the buyers	7.7
Total	**100.0**

Table 6.8
Cooperation with firms – partners in selection of deliveries and sales 2001 (in %)

Who executes	Does not execute	1 – very little	2	3	4	5 – completely	Total
The firm	1.6	1.36	2.3	6.3	21.9	66.4	100
Partners	34.9	20.2	10.9	7.8	9.3	17.1	100

Table 6.10
Turnover of industrial firms of St. Petersburg 2001 (in %)

Region	Purchases	Sales	Balance	Ratio to domestic turnover
1. St. Petersburg and the Leningrad Region	45.9	48.4	2.5	100.0
2. Northwest Russia	13.5	11.3	-2.2	26.3
3. Russian Federation	17.7	21.1	3.4	41.1
4. CIS	3.9	6.3	2.4	10.8
5. Europe	12.3	5.7	-6.6	19.1
6. Global market	4.5	5.5	1.0	10.6
Total	**97.8**	**98.3**	**0.5**	

Table 6.12
Factors significant for increasing competitive advantage 2001 (in %)

Advantages	0 – no advantage	1	2	3	4	5 – there is a significant advantage	Mean rank
1	2	3	4	5	6	7	8
1. Skills/knowledge of labor force	3.3	2.8	8.8	17.7	36.5	30.9	3.66
2. Organization of production	7.3	6.7	11.2	19.7	20.2	34.8	3.30
3. Marketing	6.6	11.0	13.3	17.1	23.8	28.2	3.18
4. Owning of patents/licenses	20.1	4.5	15.6	12.3	18.4	29.1	2.82
5. Internal R&D	24.9	12.2	12.7	12.7	12.2	25.4	2.46
6. Close cooperation with firms in Russia	43.2	9.7	10.2	11.9	11.4	13.6	1.71
7. Close cooperation with firms in the Leningrad Region	46.9	8.5	10.2	13.0	9.6	11.9	1.58
8. Close cooperation with firms in the North-west of Russia	44.3	10.8	12.5	11.4	9.1	11.9	1.58
9. Support of other institutions. Please specify	66.1	5.2	2.3	6.3	8.6	11.5	1.14

Data of columns 2–7 is in %; data of column 8 – mean rank.

Table 6.14
Policies of how firms responded to the crisis in the Russian economy 2001 (in %)

Policies	0 – of little importance	1	2	3	4	5 – very important	Mean rank
1	2	3	4	4	6	7	8
1. *Raising prices*	13.7	9.3	19.2	19.2	14.8	23.6	2.78
2. Speeding up product development	24.9	12.2	10.5	23.8	16.6	12.2	2.26
3. Outsourcing	32.0	18.2	5.5	11.0	13.8	19.3	2.10
4. Organizational re-structuring	29.7	13.7	12.6	14.8	18.7	10.4	2.07
5. Intensification of internal R&D	33.9	18.3	13.3	13.3	9.4	11.7	1.76
6. Subcontracting	41.9	16.8	11.7	11.7	7.8	10.1	1.52
7. Cooperation with other firms in marketing	39.8	16.6	15.5	11.0	10.5	6.6	1.52
8. Cutting prices	52.8	10.6	12.2	9.4	7.8	7.2	1.27
9. Co-operation with other firms in R&D and technical innovation	53.6	20.7	10.1	7.8	3.4	4.5	0.97

Data of columns 2–7 is in %; data of column 8 mean rank.

Table 6.15
Changes in costs of R&D for the period 1999–2000 (in %)

Type of changes of costs on R&D	Scale of changes
1. costs of R&D have increased by more than 45%	7.2
2. costs of R&D have increased from 16 to 45%	7.2
3. costs of R&D have increased from 6 to 15%	9.6
4. costs of R&D have increased from 0 to 5%	16.9
5. costs of R&D have not changed	43.4
6. costs of R&D have decreased from 0 to 5%	6.0
7. costs of R&D have decreased from 6 to 15%	3.6
8. costs of R&D have decreased from 16 to 45%	4.8
9. costs of R&D have decreased by more than 45%	1.2
Total	**100.0**

Table 6.16
Geographic disposition of main partners in the innovation process 2001 (mean rank)

Partners	St. Petersburg	The Leningrad region	Northwest	Russia and CIS	Foreign countries
1. Firms – buyers	0.81	0.45	0.43	0.70	0.62
2. Firms – suppliers	0.58	0.25	0.28	0.48	0.65
3. Consultants	0.48	0.12	0.13	0.18	0.35
4. Investors	0.35	0.08	0.08	0.24	0.41
5. Technology transfer firms	0.32	0.04	0.05	0.21	0.12
6. Research institutes	0.32	0.04	0.03	0.15	0.15
7. Universities	0.31	0.04	0.03	0.08	0.07
8. Stakeholders	0.26	0.07	0.05	0.21	0.05
9. Trade associations	0.26	0.07	0.07	0.13	0.05
10. Training programs	0.22	0.04	0.03	0.07	0.11
11. Sponsors	0.14	0.06	0.05	0.05	0.09

Table 6.17
Main partners in product and process innovation 2001 (mean rank)

Partners	St. Petersburg	The Leningrad region	Northwest	Russia and CIS	Foreign countries
1. Customer firms	0.79	0.44	0.36	0.60	0.50
2. Supplier firms	0.61	0.24	0.24	0.43	0.55
3. Consultants	0.51	0.13	0.11	0.17	0.31
4. Contract research organizations	0.33	0.05	0.03	0.14	0.12
5. Universities / HEIs	0.28	0.03	0.03	0.07	0.06
6. Technology transfer institutions	0.31	0.04	0.05	0.19	0.10
7. Providers of (venture) capital	0.40	0.10	0.08	0.22	0.32
8. Providers of subsidies	0.19	0.06	0.04	0.06	0.08
9. Government agencies	0.33	0.11	0.08	0.22	0.05
10. Trade associations, similar institutions	0.27	0.06	0.07	0.12	0.05
11. Training programs/ institutions	0.22	0.03	0.03	0.06	0.09

Table 6.19
Reasons why firms do not participate in projects originated by the government 2001 (in %)

Reason	Number of responses (%)
1. No need to participate in these projects	29.5
2. Projects unknown to our firm	14.6
3. Participation co-funding is too costly	13.8
4. Risk of losing knowledge	11.6
5. No suitable partner available	10.8
6. Process of applying too bureaucratic	8.6
7. Lack of time	8.2
8. Other	0.4
9. No answer	2.6

Table 6.21
External business services related to the following functions in the past three years 2001 (in %)

Functions	Used only once			No usage, although there was a need	No such problems have arisen	Mean number per year
	Less than 2 times a year (1–5)	2–6 times a year (6–18)	7–30 times a year			
1	2	3	4	5	6	7
1. Management of human resources	7.6	3.0	1.0	27.2	61.2	1.05
2. Personnel training	16.3	9.6	6.8	22.9	44.8	3.10
3. Sales and marketing	17.1	5.1	4.9	33.3	39.4	2.33
4. Partner search and networking	15.1	8.2	8.9	30.3	37.4	4.00
5. Internationalization and exports	15.3	3.9	1.1	18.4	61.2	0.98
6. Financial administration and financing	29.6	5.9	2.1	25.5	36.9	2.12
7. Information systems	20.6	6.1	5.1	19.6	48.6	3.15
8. Production	15.3	8.1	7.1	21.4	48.0	3.03
9. Research and development	16.5	5.1	2.1	22.7	53.6	1.27
10. Strategic management	11.3	1.1	0.9	42.4	44.3	0.46

The data in columns 2–6 is in %; in column – mean number per year

Table 6.23
General benefits of co-operation with business support firms 2001

Benefits	0 – of little importance	1	2	3	4	5 – very important	Mean rank
1	2	3	4	5	6	7	8
1. Highly skilled personnel	12.8	5.7	15.6	23.4	22.0	19.9	2.27
2. Direct support in development process	25.5	12.8	10.6	21.3	19.9	8.5	1.69
3. Collaboration with other firms	28.8	12.2	15.1	12.9	15.1	15.8	1.68
4. New instruments and techniques	26.8	12.7	16.9	16.2	14.1	11.3	1.61
5. Easy introduction of new technology	24.8	14.2	21.3	19.9	10.6	8.5	1.55
6. Lower cost of innovation	37.4	15.6	14.9	13.5	12.8	5.7	1.27
7. Collaboration with R&D centres	50.3	14.2	16.3	9.9	5.0	4.3	0.91

Data in columns 2–7 is in %; data in column 8= mean rank.

Table 6.24
Main reasons of not-close cooperation with certain firms or organizations 2001

Reasons	0 –of little importance	1	2	3	4	5 –very important	Mean rank
1	2	3	4	5	6	7	8
1. Too expensive	19.3	7.6	9.2	19.3	18.5	26.0	1.83
2. No need	27.1	10.2	5.9	7.6	18.6	30.4	1.72
3. Internal provision	30.7	7.7	12.8	17.9	12.0	18.8	1.45
4. Lack of information / contacts	30.4	16.9	10.2	16.1	8.5	17.8	1.33
5. Problem of access (e.g. too distant)	38.6	16.0	10.9	11.8	12.6	10.1	1.12
6. No proper partners	40.1	12.8	12.0	17.9	8.5	8.5	1.06

Data in columns 2–7 is in %; data in column 8 = mean rank.

Table 6.25
Priorities of innovation activities that firms prefer to spend money on 2001

Directions of investing financial resources	First of all	Secondly	Thirdly	Not necessary	Mean rank
1	2	3	4	5	6
1. Purchase of equipment	54.9	27.7	9.2	8.2	1.62
2. Product development	52.5	22.8	8.9	15.8	1.83
3. Own R&D	44.4	16.2	12.1	27.3	2.12
4. Marketing of new products	39.6	19.2	20.1	21.1	2.14
5. Research	41.6	12.9	20.8	24.8	2.24
6. Acquisition of patents and licenses	27.3	21.2	22.2	29.3	2.34
7. Personnel training	22.4	21.4	31.6	24.5	2.43
8. Design	21.8	30.7	19.8	27.7	2.47
9. Services, rendered by external research firms	4.1	13.3	28.6	54.1	3.13
10. Services, rendered by external technology transfer firms	1.0	15.3	18.4	65.3	3.19.

Data in columns 2–7 is in %; data in column 8 = mean rank.

Table 6.27
Circuit of calculation of a parameter of contrast between 'active-innovative' and 'passive-innovative' firms

	It can be avoided				It's inevitable	
´active-innovative´ firms	a1	b1	c1	d1	e1	100%
´passive-innovative´ firms	a2	b2	c2	d2	e2	100%

Table 6.28
Making fictitious/bogus contracts to evade tax payments 2001 (in %)

Type of firm	It can be avoided				It is inevitable	Total
'active-innovative firms'	18.3	18.3	25.0	15.0	23.3	100
'passive-innovative firms'	6.5	6.5	29.0	25.8	32.3	100
Pearson's contingency coefficient P = 0.228						
Parameter of contrast K = 68.2						
Net – advantage = 43.4						

Table 6.29
Non-fulfillment of business obligations by partners 2001 (in %)

Type of firm	It can be avoided				It is inevitable	Total
'active-innovative firms'	18.3	28.3	33.3	13.3	6.7	100
'passive-innovative firms'	12.5	3.1	50.0	25.0	9.4	100
Pearson's contingency coefficient P = 0.201						
Parameter of contrast K = 55.4						
Net – advantage = 45.4						

Table 6.30
Racketeering and threats with violence 2001 (in %)

Type of firm	It can be avoided				It is inevitable	Total
'active-innovative firms'	40.0	23.3	31.7	3.3	1.7	100
'passive-innovative firms'	45.2	25.8	12.9	16.1	0.0	100
Pearson's contingency coefficient P = 0.040						
Parameter of contrast K = - 3.5						
Net – advantage = 3.4						

Table 6.32
Bribes to officials 2001 (in %)

Pattern of ownership	Rank of preference	It can be avoided				It is inevitable	Total
State	3	25.0	16.7	16.7	0.0	41.7	100
Privatized	1	23.1	28.2	17.9	23.1	7.7	100
Private from the beginning	2	9.3	18.5	27.8	25.9	18.5	100
Joint ventures	4	0.0	27.3	18.2	27.3	27.3	100
Pearson's contingency coefficient P = 0.117							

Table 6.33
Infringement of rules of customs control 2001 (in %)

Pattern of ownership	Rank of preference	It can be avoided				It is inevitable	Total
State	1	27.3	27.3	36.4	9.1	0.0	100
Privatized	2	12.8	33.3	30.8	12.8	10.3	100
Private from the beginning	3	16.7	27.8	22.2	24.1	9.3	100
Joint ventures	4	9.1	45.5	9.1	18.2	18.2	100
Pearson's contingency coefficient P = 0.115							

Table 6.34
Own nonfeasance, default 2001 (in %)

Pattern of ownership	Rank of preference	It can be avoided				It is inevitable	Total
State	3	36.4	36.4	27.3	0.0	0.0	100
Privatized	4	33.3	28.2	30.8	5.1	2.6	100
Private from the beginning	2	50.9	25.5	12.7	9.1	1.8	100
Joint ventures	1	81.8	18.2	0.0	0.0	0.0	100
Pearson's contingency coefficient P = 0.078							

Table 7.2
Dynamics of involvement of firms in networks training managers 2004 (in %)

Type of firm by number of participants in a network training its managers	**Number of firms (in %), belonging to a concrete type**	
	2000	2004
None	39.9	29.4
From 1 to 2	24.1	28.5
From 3 to 6	26.4	28.3
From 7 to 20	7.9	11.9
21 and more	1.7	1.8
Total	**100**	**100**

Table 7.4
Subjects of a social environment

UnIndBus	The union of industrialists and businessmen	TACIS	TACIS
UnSEEM	The union of scientists, engineers and experts of manufacture of St. Petersburg and the leningrad region	StateDum	The State Duma
TradeUni	Trade unions	RFGvmnt	The government of the Russian federation
Church	Church	RFPresid	The president of the Russian federation
ConsProt	The society for consumers' protection	WTO	WTO
BusDevF	The St. Petersburg fund for business development	IntCmArb	The international commercial arbitration
BancrAgc	Agency on affairs of an inconsistency and bankruptcy	RFMedia	The all-Russian mass-media
CityPrptM	St. Petersburg committee for city property management	StPeChm	Commercial and industrial chamber of St. Petersburg
EcDevC	The committee of economic development, industrial policy of St. Petersburg	StPeInn	Innovational centres of St. Petersburg
InternAffr	The department of internal affairs of St. Petersburg	StPeBank	Banks of St. Petersburg
CityGvmt	The government of the city	StPeIns	The insurance companies of St. Petersburg
CityGvnr	The governor of the city	StPeTax	Tax authorities of St. Petersburg
CityAsmb	The city assembly	StPeTest	The test of St. Petersburg
MosBank	Moscow banks	StPeStrPl	The bureau of the strategic plan of St. Petersburg
WesBank	Western banks	PrSecuC	Private security companies
IBRD	IBRD the international bank of reconstruction and development	StSecuC	The state security enterprises
IMF	IMF the international monetary fund	StPePrsct	Office of public prosecutor of St. Petersburg
MosIns	Moscow insurance companies	Arbitrat	The arbitration
WeInsurC	Western insurance companies	CityCourt	City court
WeChmb	Commercial and industrial chambers of the western countries	RgMedia	Regional massmedia
UnIndBus	The union of industrialists and businessmen	TACIS	TACIS
UnSESM	The union of scientists, engineers and specialists of manufacture of St. Petersburg and the leningrad region	StateDum	The State Duma

Table 8.1
Higher education in the Russian Federation [1]

	1993–1994	1995–1996	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003	2003–2004
Number of HEE-total	626	762	914	939	965	1008	1039	1046
Including:								
State	548	569	580	590	607	621	655	654
Non-state	48	193	334	349	358	387	384	392
Number of students, total, one thousand person	2613	2791	3598	4073	4742	5427	5948	6456
Including in educational institutions:								
State	2543	2655	3347	3728	4271	4797	5229	5596
From them, trained in the departments:								
Internal	1625	1700	2040	2213	2442	2657	2862	3010
Internal – Correspondence course	170	160	200	228	259	285	299	302
Correspondence course	748	795	1102	1278	1519	1784	1973	2165
Extern	–	0,1	5	9	51	71	95	119
Non-state	70	136	251	345	471	630	719	860

1 Russia in figures 2004. Brief statistics. Russian Federation Department for the State Statistics. Moscow, 2004. p.122.

Table 8.2
Mid-annual number of occupied in economy on branches [2]

Branches	1990	1995	1996	1997	1998	1999	2000	2001
	Thousand person							
Total	2653.0	2347.8	2331.4	2343.7	2329.8	2353.9	2367.7	2372.2
Including:								
The industry	877.4	596.2	558.5	531.5	471.3	470.8	479.3	478.2
Rural and a forestry	14.2	12.7	12.5	12.7	12.9	20.2	19.7	18.5
Transport and communication	232.7	218.9	210.5	217.1	212.5	210.1	208.0	209.9
Construction	293.6	251.4	257.8	262.3	261.5	264.0	272.7	268.6
Trade and public catering	216.6	348.0	350.7	376.0	462.8	484.7	479.2	488.9
Housing and communal services, consumer services of the population	157.2	125.8	141.1	150.0	141.4	132.2	126.7	128.9
Public health services, physical training, social security	161.7	163.0	156.9	161.6	158.7	156.9	153.2	153.3
Education, culture and art	225.0	254.0	250.5	254.2	255.0	257.0	255.6	254.8
Science and scientific service	343.0	199.5	171.6	159.4	133.5	125.2	125.6	125.4
Finance, the credit, insurance, provision of pensions	8.9	32.5	30.3	31.8	32.0	29.1	32.0	31.0
Administration	54.8	66.1	81.2	78.5	88.5	90.6	92.5	90.3
Other branches	67.9	79.7	109.8	108.6	99.7	113.1	123.2	124.4

2 St Petersburg in 2001. Official issue. Goscomstat of Russia. St Petersburg, 2002, p. 32.

Table 8.3
Number of students of HEE on branch specialization [3]

Branches	1990	1995	1996	1997	1998	1999	2000	2001
	Thousand person							
Number of students	247.5	205.6	214.8	232.1	250.9	277.6	303.9	330.1
Including trained in educational institutions:								
The industry and construction	119.5	93.9	99.6	107.5	117.4	133.0	150.3	165.9
Agriculture	10.2	8.4	8.5	9.0	9.5	10.1	10.2	10.4
Transport and communication	39.4	30.0	31.1	32.4	34.1	36.1	38.9	41.0
Economy and law	16.2	15.4	15.9	17.6	23.3	28.4	30.3	33.7
Public health services, physical training and sports	15.4	13.4	13.4	13.6	13.8	13.8	13.9	14.1
Education	41.9	39.6	41.4	47.1	47.9	51.2	55.3	59.8
Arts and cinematography	4.9	4.9	4.9	4.9	4.9	5.0	5.0	5.2

Table 8.4
The price for access to higher education 2001 [4]

City of the Russian Federation	Cost of services of a tutor for 100 hours of tutoring, thousand RUR	Size of bribe in order to be admitted to state HEI, thousand RUR	Cost of one year studying in non-state HEI, thousand RUR
Moscow	28 – 140	14 – 30	16.8 – 84
St Petersburg	10 – 28	14 – 22.5	7 – 46
Novosibirsk	15 – 25	1 – 5	5 – 20
Nizhni Novgorod	7 – 30	10 – 28	4.5 – 13
Tyumen	5 – 15	20 – 40	13 – 30
Ufa	10 – 30	5 – 20	5 – 25
Voronezh	5 – 15	3 – 6	4 – 19.9
Ryazan	3 – 10	10 – 28	7 – 20
Cheboksary	3 – 15	4 – 12	6 – 16
Bryansk	2 – 5	1 – 14	8 – 13

3 St Petersburg in 2001. Official issue. Goscomstat of Russia. St Petersburg, 2002, p. 87.

4 Statistical data by the Centre for Sociological Research, The Russian Federation Ministry of Education 2002, Averkin S., Persikov A., at al www.kr.ru.

Table 8.6
Managers' certificates of education in management (in %)

Type of certificate	2001	2003
University or college diploma with a business and administration specialty component	13.1	17.2
Diploma of Candidate of Science in business and administration	1.5	1.5
Diploma of Doctor of Science in business and administration	0.2	0.2
Diploma of master in management	0.5	0.5
MBA diploma	0.5	1.9
Diploma of Baccalaureate in business and administration	1.0	1.4
Certificate of graduation from a business school	7.1	6.2
Certificate of graduation from managerial courses	27.6	26.4
License of a professional organization of managers	0.0	9.3
Other documents certifying managerial specialization	5.8	7.1
Those, having more than one of the certificates listed above	11.2	20.9
No such document	54.9	49.2

Note: the total is more than 100%, since some managers hold more than one certificate of higher education.

Table 8.8
Convertibility of educational specialities by status and level of the income, 2004

Type of education	A rank of the status	A rank of income	A share of graduated, %
Business education	0.209	0.353	1.1
Social sciences	0.240	0.319	2.2
Economics	0.233	0.301	17.1
Technical	0.240	0.295	45.9
Military	0.249	0.267	1.9
Natural sciences	0.236	0.247	5.4
Other humanities	0.267	0.204	9.8
Law	0.242	0.197	2.4
Other profile	0.240	0.180	3.1
No higher education	0.215	0.163	10.4
Agricultural	0.231	0.077	0.8

Table 8.9
Interlinking of educational activity with landing a job, 2004

Way of landing a job	Rank of educational activity	Share of managers that used this way to land a job, %
Elected to this position	0.65	5.8
Answered an ad	0.64	1.7
Appointed by a boss	0.62	47.3
Proposed candidacy by myself	0.62	3.5
Employer found me	0.62	14.1
Found through recruit agency, RA	0.61	2.1
Helped by relatives, friends	0.61	11.2
Created the workplace	0.59	12.1
Other way	0.58	2.1
Total	**0.62**	**100**

Table 8.10
An interlinking of educational activity with the stability of labour, 2004

Way of landing a job	Rank/level of involvement in education	Share of those who used this way, %
Self-employed	0.60	12.3
On a permanent basis	0.61	59.9
Contract	0.62	23.6
Verbal agreement	0.63	2.2
Other	0.70	1.9
Total	**0.62**	**100**

Table 8.12
Priorities in characteristics determining the success of a manager, 2004 (ranks)

Conditions of success	Degree of importance		
	Absolutely important	Completely unimportant	Difference in estimations
Useful ties	0.58	0.83	-0.25
Personality, willpower	0.60	0.42	0.18
Competence	0.60	0.50	0.1
Market situation	0.62	0.52	0.1
Experience	0.60	0.53	0.07
Ability to neutralize criminals	0.62	0.57	0.05
Access to foreign capital	0.58	0.56	0.02
Relations with authorities	0.59	0.59	0

Table 8.13
Successes achieved by managers, 2004

Type of success	Rank of educational activitiy	Share of those who achieved such success, %
Introducing new products, services	0.650	3.3
Preservation of a team of qualified specialists, e.g. keeping the team	0.641	12.9
Creation of innovative products, new technologies	0.629	2.8
Strengthening the sustainability of a company	0.626	11.3
Improving company image	0.620	6.6
Consumer/customer satisfaction	0.618	7.8
Maintainance of good relations with partners	0.615	7.7
Raising profitability of company	0.614	11.3
Success of the department manager is responsible for	0.607	14.8
Improving/strengthening own reputation as a manager	0.605	4.3
Building up own experience of working in a market	0.597	5.0
Harmony of relations	0.593	8.4
Attracting and gaining investments	0.592	1.7
Precise fulfillment of owner's demands	0.563	1.6
Other	0.633	0.3

Table 8.14
Representations about the market: priority characteristics, 2004

Characteristics of the market	Rank of educational activity	Share of those who made such a choice, %
Chance to interact with other countries	0.662	3.7
Consumer orientation	0.626	16.0
Freedom of economic activity	0.620	18.5
Competition	0.619	24.1
Economic playing by the rules, regulations	0.614	17.3
Consumer affluence, e.g. commodity in abundance	0.605	6.8
No state interference in economy	0.592	10.0
Developed communications system	0.571	2.1
Economic chaos	0.489	1.2
Other	0.583	0.3

Table 8.15
Attractiveness of international contacts, 2004 (% of respondents, who have chosen this answer from 16 options)

Variants of answers expressing positive relation to international contacts	Educational level of managers			
	1	2	3	4
The state should create a favorable climate for investments	2.1	4.9	6.2	7.3
Globalization is an occurrence of the general world culture	1.9	2.8	4.9	5.1
The market is an opportunity to cooperate with the advanced countries of the world	0.9	1.8	1.8	2.1
Globalization is a coordination of economic strategies on a universal scale	6.8	7.9	8.0	9.1

Table 8.16
Opportunities to influence the strategy of a firm, 2004 (weighted average rank)

Aspects of opportunities of managers to influence the strategy of the firm	Educational level of managers				Empirically revealed value X^2	Minimal value X^2
	1	2	3	4		
Opportunity to determine long-term plans*	2.26	2.57	2.70	2.81	28.648	24.996
Time of considering of strategy (in minutes / per working day)	5.78	5.59	6.33	7.54	33.547	21.026
Time of discussion about the strategy of the firm with the proprietor (in minutes / per working day)	2.15	2.57	2.71	3.20	29.790	21.026
Real participation in the development of long-term plans**	0.95	1.02	1.06	1.14	18.693	12.692

* Weighted average rank, minimal possible value 0 (not determined), maximal possible value 4 (completely determined);

** Weighted average rank, minimal possible value 0 (no participation), maximal possible value 2 (direct participation).

Table 8.20
Influence of the Program on various aspects of self-estimation of experts, 2004

Influence of participation of managers in the Presidential Program on	Has affected negatively (-1)	Has not affected (0)	Has affected positively (+1)[5]	Total	Weighted average rank
1	2	3	4	5	6
Self-estimation of the expert	2.9	14.3	82.9	100	0.80
Expert's understanding of problems of the firm	5.6	11.1	83.4	100	0.78
Expert's estimation of prospects of development of the firm	0.0	22.2	77.8	100	0.78
Expert's understanding of basic directions of firm's activities	2.8	22.2	75.0	100	0.72
Relations with colleagues	5.6	38.9	55.2	100	0.50
Relations with subordinates	5.6	41.7	52.7	100	0.47
Relations with CEO of the firm	5.8	44.1	50.0	100	0.44
Relations with Russian and foreign partners	2.9	54.3	42.9	100	0.40
Career advancement of the expert	8.8	44.1	47.1	100	0.38

Columns 2–5 – %, column 6 – weighted average rank

Table 8.21
Influence of the Program on the 'value' of managers, 2004 (in %)

Offers received by graduates of the program	Yes	No	Total
Job offers from other Russian firms	29.7	70.3	100
Increase in salary	25.8	74.2	100
Higher job position/promotion	20.1	79.9	100
Job offers from Western firms	16.7	83.3	100
Job offers from the administration of the region	0.0	100	100

5 The figures in brackets: (0), (-1), (+1), placed in the names of columns 2, 3, and 4 mean weights given to variants of answers included in columns. They have been considered in the further calculation of the weight average ranks, included in column 6.

Table 8.24
The educational activity of managers and the success of firms
(the Kendall's rank correlation coefficient -τ)

Success factors of firms	Correlation with the educational activity of managers
External social capital of firms	
1. Participation in programs of the Administration of St Petersburg	0.282
2. Participation in the tripartite agreements	0.311
3. Participation in international programs	0.339
4. Collaboration with techno parks	0.329
5. Participation in regional venture innovation projects	0.284
6. Participation in associations (business associations, holding companies, consortia, etc.)	0.183
7. Participation of firms in the shadow, corrupt ties	-0.222
Internal social capital of firms	
1. Organization of quality circles effective in Japan	0.236
2. Organization of joint holidays for the company's personnel	0.229
3. Spending week-ends together with personnel	0.260
4. Improving of structural reflecting by employees – improving their understanding of different departments' role in gaining the firms' success as a whole	0.270
5. Improving of individual reflecting by employees – improving of understanding and acquiring his own role in his firm	0.253
6. Usage of group (team) work methods	0.155
7. Internal policy of the company: staff – a united family	-0.148
Innovative potential of firms	
1. R&D expenditures	0.344
2. Introduction of organizational innovations	0.328
3. Introduction of technological innovations	0.242
4. Participation in training programs for introduction of innovations	0.370
Final success indicator of the firm	
The projected improvement in the economic situation of the company	0.349

References

Abramov, R. (2005) *Rossijskie menedzhery: sotsiologicheskij analiz stanovlenija professii*. M.: KomKniga.

Adler, P. (2001) Market, hierarchy, and trust: the knowledge economy and the future of capitalism, *Organization Science*, Vol. 12, No. 2, 215–234.

Afanasjev, V.G. (1977) *Chelovek v upravlenii obshchestvom*. M., 63.

Afanasjev, V.G. (2003) *Sobranie sochinenij*, vol. 5, 206.

Afonin A., Gibson M., *Rol´ obuchenija na rabochem meste v professional´nom razvitii menedzherov*, http://www.delphi-project.ru.

Afonin, A , Gibson (2004) Rol' obuchenija na rabochem meste v professional'nom razvitii menedzherov. *Organizator proizvodtstva*, No2, M.

Andreeva, I.V. (1998) Chitatel'skie interesy studentov economicheskikh vuzov Rossii. *Problemy regional'noi economiki*, Izhevsk, Vol. 1–2, 201 – 207.

Antipina, O., Inozemtsev, V. (1998) Dialektika stoimosti v postindustrial'nom obshchestve. Statja tretja. Konkretnyi trud I poleznost': destruktsija stoimosti so storony potreblenija. *Mezhdunarodnaja ekonommika I mezhdunarodnye otnoshenija*, Vol. 9, 20.

Arthur, B. W. (1996) Increasing returns and the new world of business. *Harvard Business Review*, July, August, 100–109.

Aslakhanov, A.O. (2004) *O Rossijskoi mafii bez sensatsij*. 3rd ed. St Petersburg, Juridicheskij Centr Press, 179–216.

Averkin S., Persikov A., at al Statistical data by the Centre for Sociological Research, The Russian Federation Ministry of Education, www.kr.ru.

Babbage, Charles (1980) *On the Economy of Machinery and Manufactures*, (Reprints of Economic Classics) A. M. Kelley; 4th edition, June 1980, 408 p.

Bachmann, R. (1998) Trust: conceptual aspects of complex phenomenon, in Lane, C. and Bachmann, R. (Eds*.): Trust Within and Between Organisations: Conceptual and Empirical Applications*, Oxford University Press, New York, 298–322.

Batchaev, A.R., Slutskij, E.G., Sovershaeva, L.P., Solodukhin, J.N., Khazova, E.V., Khodachek, A.M. (2002) *Osnovnye napravlenija strategii sotsial'no-ekonomicheskogo razvitija Severo-Zapadnogo federal'nogo okruga Rossiiskoi Federatsii na period do 2015 goda*, Sank-Peterburg. In English: Main directions of the Northwest Russia development till 2015.

Beer, M., Spector B, Lawrence P, Quinn Mills D, and Walton, R (1985) *Human Resource Management: A General Managers Perspective*. Glencoe, IL: Free Press.

Belousenko, M. (1998) Vtoraja menedzherskaja revoljutsija, Donetsk, IEP NAN Ukrainy, 107.

Berger, P.L. et al. (1973) *The Homeless Mind: Modernization and Consciousness*. New York: Random House.

Berkhout, A. J., Wouters, P.F., and Shaffers, H. (1997) Technology voor de Maatschappij van Morgen, Amsterdam, Elsevier Science B.V.

Berzhe, P., Pomo, I., & Vidal', K. (2000) *Poryadok v khaose (Order in Chaos)*. Moscow, 387.

Bijlsma-Frankema, K. and Costa, A. (2005) Understanding the trust-control nexus, *International Sociology*, Vol. 3, 259–282.

Black, C.K. (1966) The Dynamics of Modernization. N.Y.

Blanchard, K. & Johnson, S. (1983) *The One Minute Manager*. Glasgo: Fontana, Collins.

Bliakhman, L et al. (1994) *Vvedenie v menedzhment: Uchebnoe posobie*. SPb, Economika i finansy.

Bliakhman, L. (1979) Economika nauchno-tekhnicheskogo progressa, M., Visshaja shkola,

Blom R., Melin H., Sarno A., Sarno I. (2004) Management and development of innovations in Russian economy – the case of industrial enterprises of St. Petersburg. *Mir Rossii (Universe of Russia),* Vol. X111, 2004, No 2, 134–158.

Blom, R. & Melin, H. (Eds.) (2003) Information Society and the Transformation of Organizations in Finland. *Work and Occupations 30:2*, Harri Melin, 176–193.

Blom, R. & Melin, H., Nikula, J. (Eds.) Between Plan and Market: Social Changes in the Baltic States and Russia (Societies in Transition), Walter De Gruyter Inc., 1996.

Blom, R. (1996) Between Plan and Market: Social Change in the Baltic State and Russia by Blom, R. (Ed.), Melin, H. (Ed.), Nikula, J. (EdWalter de Gruyter, Inc.

Blom, R. (2002) Reproduction and Classes During Economic Crises. *Restoration of Class Society in Russia?* Jouko Nikula (Ed.). Aldershot: Ashgate, 76–101.

Blom, R. (2008) Työt, organisaatiot ja hyvinvointi. *Yhteiskuntapolitiikka*, 73, 2, 190–192.

Blom, R., Melin, H & Pyoria, P. (2005) *Knowledge Workers in the Information Society: Evidence from Finland.*

Blom, R., Melin, H., Sarno, A. and Sarno, I. (2004) Management and Development of Innovations in Russian Economy – the case of Industrial Enterprises of St. Petersburg, *Mir Rossii, Universe of Russia*, Vol. X111, No. 2, 134–158.

Blom, R., Melin, H., Sarno, A., Sarno, I. (2004) Management in Russian firms: Growth of Innovational Potential – The Case of St Petersburg's Industry in 1999–2004. *New Europe 2020: Visions and Strategies for Wider Europe – 2004*.

Blom, R., Melin, H., Sarno, A., Sarno, I. (2005) Social Capital, Trust and Managerial Strategies. *Mir Rossii (Universe of Russia),* Vol. XVI, 2005, No 2, 127–151.

Bourdieu, P. (1990) Structures, habits, practices. *The logic of practice.* P. Bourdieu (Ed.). Stanford, CA: Stanford University Press.Bourdieu, 54–79.

Bullock, 1977 *Report of the Committee of Inquiry on Industrial Democracy*, Cmnd 6706, London: HMSO.

Burdett, J. O. (1994) To coach, or not to coach – that is the question! In C. Mabey & P. Iles (Eds.) *Managing Learning*, 133–145, London, Routledge / The Open University.

Carlzon, J. (1987) *Moments of Truth*. New York: Harper & Row.

Carnevale, A., Gainer, L., & Villet, J. (1990) *Training in America: The Organization and Strategic Role of Training*. San Francisco: Jossey-Bass.

Carnoy, Martin et al. (1993) *The New Global Economy in the Information Age* (University Park: Pennsylvania State University Press.

Castells, M. (1996–1998) *The Information Age: Economy Society and Culture,* Vol. I–II. Oxford: Blackwell Publishers.

Cherneiko, D. (1999) Professional Education in Modern Society. *Monitoring of the social-economic situation and labor market situation of St Petersburg.* Information-analytical bulletin. January–June, 7.

Chernysh, M. (2004) Protivorechija stanovlenija sotsial'nogo partnerstva. *Sotsiologicheskie issledovanija,* No 6, 21–37.

Chernysh, M. (2008) Social profile of the Russian Manager. *Managers in Russia: Still so different*? Raimo Blom (Ed), Aleksanteri Series, 3/2008, 16–32.

Clarke, S. (1995), *Management and industry in Russia: formal and informal relations in the period of transition*, Edward Elgar Publishing.

Cofer, D. (2000) *Informal Workplace Learning, Practice Application Brief*. NO 10. U.S. Department of Education: Clearinghouse on Adult, Career, and Vocational Education.

Coleman, J.S. (1987) Social Capital in the Creation of Human Capital. *American Journal of Sociology* 94: 95–120.

Coleman, J. C. (1988) Social capital in the creation of human capital. *American Journal of Sociology* 94: 95–120.

Cooke, Morris L. (1910) *Academic and Industrial Efficiency: A Report to the Carnegie Foundation for the Advancement of Teaching.* New York.

Cross, J. (2007) *Informal Learning: Rediscovering the Natural Pathways That Inspire Innovation and Performance*. San Francisco: John Wiley & Sons, Inc.

Cunningham, I. (2004) Back to Reality? *People Management*, 8 April, 37–38.

De Bono, E. (1986) *Tactics: The Art and Science of Success*. London: Fontana.

Dixon, M. (1986) Ancient Wisdom with a Novel Twist. *Financial Times*. 7 July.

Dodsworth, T. (1986) The Parable of the One Minute Pundit. *Financial Times.* 14 July, 14.

Dodsworth, T. (1986) Why America is Just Wild about Wisdom. *Financial Times.* 30 June, 14.

Done, K. (1986) Preaching What he Practises. *Financial Times*. 15 September, 14.

Drucker, P.F. (1954) *The Practice of Management*, N.Y.

Drucker, Peter (1954). *The Principles of Management*. New York: NY HarperCollins Publishers.

Dube, S.C. (1988) *Modernization and Development: The Search for Alternative Paradigms*. Tokio: The United Nations University; London; Atlantic Highlands (New Jersey): Zed Books Ltd.

Due to the EGRPO regulation (*Goskomsatt Rossii* (1992) 08.10.92 №168), monitoring began in 1993.

Dunning, J. (1970) *Studies in International Investment*. London: Allen & Unwin.

Edquist, C. (1997) Introduction. In Edquist C. (Ed.) *Systems of innovation*. Technologies, institution and organizations, Printer, London and Washington.

Edvinsson, L., Malone, M.S. (1997) *Intellectual Capital. Realizing Your Company's True Value by Finding Its Hidden Brainpower.* New York, Harper Business, 225.

Egorshin, V., Kolesnikov V. (2000) *Prestupnost' v ekonomicheskoi sfere*, St Petersburg, Fond Universitet, 179.

Emery, E.F. and Trist, E.L. (1965) The causal texture of organizational environments. *Human Relations*, 18, 21ff.

Etzioni, A (1961), *A Comparative Study of Complex Organizations*, New York: Free Press.

Fedotova, V.G. (2000) Tipologoja modenizatsii i sposobov ikh izuchenija. *Voprosy filosofii*, No4.

Galbraith, J. (1967) *The New Industrial State.* N-Y.

Galbraith, J.K. (1983) *Anatomy of Power*. Boston, MA: Houghton Mifflin.

Gampetta, D. (Ed.) (1988) Trust: Making and Breaking Co-operative Relations, Basil Blackwell.

Gavrikov A.L., Gudilov S.A., Porovskij G.S., Isaev V.A., Seleznev B.I., Andreev S.S. (2000) *O kontseptsii sistemy kachestva NovGU. Kvalimetrija cheloveka I obrazovanija. Metodoligija I praktik.* Materialy IX simposiuma. M., Issledovatel'skij tsentr problem kachestva podgotovki spetsialistov.

Gershberg, S.R. (1985) *Stakhanov i stakhanovtsy*. M., 1985, 47.

Gibson, M., Afonin, A. (2004) Buznes a vyshshee obrazovanie: opyt vzaimodeistvija v Velikobritanii. *Universitetskoe upravlenie: praktika i analiz,* No11.

Gol'tsman, A.G. (1926) Osnovy organizatsii sovetskogo economicheskogo apparata, *Khozjaistvo i upravlnie*, Vol. 12, 8.

Grabher, G. (1993) The weakness of strong ties: the lock-in of regional development in the Ruhr area. In Grabher (Ed.) *The embedded firm: On the socio-economics of industrial networks*, London: Routledge.

Grebnev, L.S. et al (2002) Ispol'zovanie zachetnykh edinits v vysshem obrazovanii. *Vysshee obrazovanie segodnja,* Vol. 9, 14–17.

Gudkov, L., Dubin, B., Levinson, A., Leonova, A., Stuchevskaja. *Dostupnost' vysshego obrazovanija: sotsial'nye i institutsional'nye aspekty*, www.ecsocman.edu.ru/db/msg/175720.html

Guest, D. and Horwood, R. (1980) *The Role and Effectiveness of Personnel management*. London: London School of Economics.

Guest, D.E. (1987) Human Resource Management and Industrial Relations. *Journal of Management Studies*, Vol. 24, no 5, 503–521.

Gulick, L. (1965) Management is a science. *Academy of Management Journal*, Vol. 8, No 1, 7–13.

Gutgarts, R.D. (2001) Evoljutstija podkhodov k probleme upravlenija kadrami predprijatija. *Menedzhment v Rossii i za rubezhom*, Vol. 5, 21–22.

Gvishiani, D.M. (1972) *Organisation and Management. A Sociological Analysis of Western Theories*.

Gvishiani, D.M. (1998) *Organizatsija i upravlenie.* M., MGTU im. Baumana.

Hampton, John J. (1994) (Ed.) *AMA Management Handbook*, 3rd Ed. New York: AMACOM.

Hagedoorn, John and Duysters Geert (2002) Learning in dynamic inter-firm networks: the efficacy of multiple contacts. Organization Studies, 23/4, 525–548.

Heller, R. (1990) Now Here´s What You Ought to Do. *Business Life, British Airways Magazine*, October, 32–36.

Herzberg et al (1959) *The Motivation to Work*. New York: Wiley.

Hirszowicz, M. (1981) *Industrial Sociology: An Introduction*. Oxford: Martin Robertson.

Hodgson, G.M. (1999) *Economics and utopia*. London, Routledge.

Holloway, W. (1983) Fitting Work: Psychological Assessment in Organizations. Henriques, J et al. (eds.) *Changing the Subject*, London: Methuen.

Hoxie, Robert Franklin (1915).*Scientific Management and Labor.*

Iacocca, L. with Novak, W. (1985) *Iacocca: An Authobiography*. London: Sidgwick& Jackson

Il'in, E., Klupt, M., Oding, N., Perekrest, V., Savul'kin, L., Khachaturova, T. (1995) Predprijatie I zanjatost'. *Monitoring social'no-ekonomicheskoi siuatsii I sostojanie rynka truda St Peterburga*. SPb, No1.

Iljin, E., Klupt, M. et al. (2000) Specific features of the situation of specialists with higher education on the St. Petersburg labour market, No3, 45.

Inglkhart,P. (1997) Postmodern: menjajushchiesja tsennosti I izmenjajushchiesja obshchestva. *Politicheskie issledovanija*, No 4.

Innovation strategies for the development of tourist sphere (2003) St Petersburg, GASE, 370.

Inozemtsev, V.V. (1998) V poiskakh bogatstva. *Mezhdunarodnaja ekonommika I mezhdunarodnye otnoshenija*, No3, 151 – 153.

Ivanov, N.N., Mechkovskii G.I. (1976) (Eds.) *Economika truda.* Uchebnoe posobie dlja vuzov. M.

Kanter, R M. (1985) *The Change Masters: Corporate Entrepreneurs at Work*. London: Allen & Unwin.

Kaplunovich T.A., Sheraizina R.M. (2002) *Variativnost' podkhodov v eksperimental'nom modelirovanii sistemy professional'nogo obrazovanija*: Sbornik nauchnykh statei, Vol.1, Velikij Novgorod, 256.

Kiam, V. (1987) *Going For It: How to Succeed as an Entrepreneur.* London: Fontana.

Kontseptsija Gosudarstvennoi programmy podgotovki upravlencheskikh kadrov v 2007/08 – 2011/12 uchebnykh godakh. http://skpk.hse.ru/

Kordonskij, S. (1996) *Administrativnye rynki SSSR i Rossii*. Novosibirsk, Nauka, 97.

Koritski, E, Nintsieva, G., Shchetov, V. (1999) *Nauchnyi menedzhment, Rossijskaja istorija: Uchebnoe posobie.* St Petersburg, Moscow, Khar'kov, Minsk.

Kornai, J. (1959) *Overcentralization in Economic Systems*, Oxford: Oxford University press.

Kosonen, R. (2006) Threats and Opportunities in the North-West Russian Economy – a Finnish business' perspective. *Russia: Limits of Economic Growth and New Opportunities*. Seminar on Russian Economy Helsinki School of Economics Tuesday 3rd October 2006. http://www.hse.fi/NR/rdonlyres/9CC692C1-DF18-4816-9FA4-EB92C290645E/0/Kosonen.pdf

Kosonen, Riitta & Leppänen, Simo (2005) Pietari vahvistaa asemaansa Venäjän taloudessa. Peuranen E. (Ed.). *Pietarin tie jatkuu.*

Kotov, A.V. (2004) Kak nam prepodavat' mikroekonomiku v novykh uslovijakh. *Izvestija Sankt-Peterburgskogo Universiteta Ekonomiki I Finansov*, Vol. 1(37), 193.

Kravchenko, A. (2000) *Prikladnaja sociologia i menedzhment*. Moscow, 275.

Kuibyshev, V. (1925) Znachenie ratsionalizatsii v oblasti khozaistva i upravlenija, *Khozjaistvo i upravlenie*, vol. 11.

Kuznetsov, V. (1999) The advanced counties develop education as a priority. *Nezavisimaja gazeta*. August 26.

Legge, K. (1978) *Power, Innovation and Problem Solving in Personnel Management*. London: McGraw Hill.

Leibovitch, O.L. (1996) *Modernizatsija v Rossii.* K metodologii izuchenija sovremennoi otechestvennoi istorii, Prm'.

Lenin, V. I. (19958–1965) *Polnoe sobranie sochinenij*. The 5th edition, vol. 34, 287–330.

Likert, R. (1961) New Patterns of Management, New York: McGraw Hill.

Linda, S. Hicks (1984) *Successful Employee Assistance Programming: A Manual*. University of Nevada, Reno.

Littler, C.R. (1982) Conceptions of skill, in Littler, C.R.. (Eds.), *The Development of the Labour Process in Capitalist Societies,* Heinemann Educational Books Ltd, London.

Littler, C.R. and Salaman, G. (1984) *Class at Work*. London: Batsford.

Lorenz, C (1986) The Grand Old Man of Provocative Punditry. *Financial Times.* 1 September.

Lorenz, C (1986) The Passionate and Unrepentant Crusader. *Financial Times*. 18 August, 8,

Lorenz, C. (1986) Europe Warms to Business Punditry. *Financial Times*. 2 July, 18,

Maslow, A. (1943) A Theory of Human Motivation. *Psychological Review*, Vol. 50, 27–30.

Maslow, A. (1954) *Motivation and Personality*. New York: Harper.

Mayo, E (1949) *The Social Problems of an Industrial Civilization*, London. Macmillan

McGregor (1960) *The Human Side of Enterprise*. New York: McGraw Hill.

Melin, Harri (2002): Change and Continuity in Russian Work Organisation. J. Nikula (ed.): *The Restoration of Class Society in Russia*. Avebury Aldershot, 60–75.

Mescon, M., Albert, M. & Khedoury F. (1988) *Management*. 3 rd. edition. New York: Harper & Row.

Metodika rascheta trudoemkosti osnovnykh obrazovatel'nykh programm vysshego professional'nogo obrazovanija v zachetnykh edinitsakh: Utv. Pis'mom Minobrazovanija Rossii ot 28.11.2002 N 14-52-988in/13 (2003), *Ofitsial'nye dokumenty v obrazovanii*, Vol. 1, 81–82.

Mills, T. (1978) Europe´s Industrial Democracy: An American Response. *Harvard Business Review*, November–December, 143–152.

Mintzberg, H. (1973) *The Nature of Managerial Work*. New York: Harper and Row.

Misztal, B. (1996*) Trust in Modern Societies*, Polity Press, Cambridge. O'Hara. K. (2004) *Trust from Socrates to Spin*, Icon Books, Duxford. Raiser, M. (1999) *Trust in Transition*, EBRD Working paper 39, London. Rus, A. and Iglic, H. (2005) Trust, governance and performance: the role of institutional and interpersonal trust in SME development', International Sociology, Vol. 3, 371–391.

Mitin, B., Bolotin, I. (1996) Obrazovanie i natsional'naja bezopasnost' Rossii. *Alma Mater*, No 6, 5.

Modern Management: The Encyclopedia of American Management Association (1997) Vol. 1. M., 573.

Mokhova, M. N. (2005) *Aktivnye metody v smeshannom obuchenii v sisteme dopolnitel'nogo pedagogicheskogo obrazovanija*. M.

Montgomery, David (1979) *Worker's Control in America* (CUP).

Mullins, L. 2003 *Management and Organisational Behaviour*, Harlow: Financial Times Prentice Hall. Huntington, S. (1984) Will More Countries Become Democratic? *Political Science Quarterly,* No 99, 193–218.

Mushkin, A.E (1978) Dialektika ponjatija gosudarstvs. *Vestnik MGU*, No 47, 127.

Nahapiet, J. and Ghoshal, S. (1998) Social Capital, Intellectual Capital, and the Organizational Advantage. *Academy of Management Review*, Vol. 23, No. 2, 242–266.

Narayan, D. (1999) *Bond and Bridges: Social Capital and Poverty*, World Bank, Washington DC. Woolcock, M. (1998) Social Capital and Economic Development: toward a theoretical synthesis and policy framework. *Theory and Society*, Vol., 27, No 2, 151–208.

Nastol'naja kniga khosjaistvennogo rukovoditelja po zakonodatel'stvu (1989) (Ed.) Puginskii B.I., M, 495.

Naumova, N.F. (1999) Retsidivirujushchaja modernizatsija v Rossii: beda, vina ili resurs chelovechestva? M.

Nelson, Daniel (1975) *Managers and Workers: Origins of the New Factory System in the United States*, 1880–1920 (Madison: U Wisconsin).

Noble, David F. (1977) *America by Design*: *Science, Technology and the Rise of Corporate Capitalism*, New-York.

OECD (1990) *Liberalization of capital movements and financial services in the OECD*. Paris: OECD.

OECD (1998) *Technology, productivity and job creation. Best policy practices*. Paris: OECD.

Ouchi, W.G. (1981) *Theory Z: How American Business Can Meet the Japanese Challenge*. Reading, M.A: Addison Wesley.

Oxford. Hendley, K. (1997) Struggling to survive: a case study of adjustment at a Russian enterprise, *Europe-Asia Studies*, Vol. 1, 91–119.

Pascale, R.T. and Athos, A.G. (1982) *The Art of Japanese management*. Harmondsworth: Penguin.

Pavitt, K. (1998) Technologies, Products and Organization in the Innovating Firm: What Adam Smith tells us and Joseph Schumpeter doesn't. *Industrial and Corporate Change*, 7: 433–451.

Pavlov-Sil'vanasij (1988) *Feodalizm v Rossii*. M, 1988, 148–149.

Perez, C. (1993) Structural change and the assimilation of new technologies in the economic and social system. *Futures*, 15/5, 357–375.

Peters, T. (1989) *Thriving on Chaos*. London: Mcmillan.

Pinchot, G. (1985) *Intrepreneuring*. New-York: Harper & Row.

Porter, M. (1980) *Competitive Strategy*. New York: Free Press.

Porter, M. (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Collier Macmillan.

Pravda (1989) April 22.

Prigozhin, A.I. (1988) Sushchnost' perekhodnykh protsessov. *Sociologija perestroiki,* Cbornik statej, M.

Prigozhin, A.I. (1983) *Organizatsijii: sistemy i ljudi*. M., IPL.

Promyshlennost' Sankt-Peterburga i Leningrdskoi oblasti in 2004(2005) *Statisticheskii sbornik.* M., Goscomstat.

Putnam, R. D. (2000) *Bowling Alone*. *The collapse and revival of American community*. New York: Simon and Schuster, 541.

Putnam, R.D. (1993) Making Democracy Work: Civic Traditions in Modern Italy. (Princeton, NJ: Princeton University Press).

Putnam, R.D. (1998) "Foreword". *Housing Policy Debate*, vol. 9, No 1, V–VIII.

Radaev, V. (1997) *Economicheskaja siciologija: kurs lektsii*. M., Aspect Press.

Rakhmanin, V. (1997) Obrazovanie kak faktor gumanisticheskoi bezopasnosti i sotsial'nogo razvitija. *Alma Mater*, No 2, 5.

Rapoport, C. (1986) A Rarity in his Own Land. *Financial Times.* 21 July, 8.

Rein I. J., Kotler P. and Stoller, M. R. (1987) *High Visibility*. London: Heinemann.

Reinhard, Bendix (1963) *Concepts* and Generalizations in Comparative Sociological Studies. *American Sociological Review* 28.

Rogers, E. & Agarwala-Rogers, R. (1976) *Communication in Organizations*. New York: Free Press.

Rossett, A., Frazee, R. V. (2006) *Opportunities for hybrid training*, American Management Association.

Rostow, W. (1978) *The Stages of Economic Growth: A Non-Communist Manifesto*. N-Y, 1960. Rostow W. *The World Economy: History and Prospect*. N-Y.

Russian education in the context of international indexes, Comparative report (2002) Centre for Monitoring and Statistics of Education at State Research Institute of Information Technologies and Telecommunications. Moscow, 34.

Salmi, A. (2000) Transformation in Russia: emerging markets or evolving networks?, in Kangaspuro, M. (Ed.): *More Different than Most*, Russia Kikimora, Helsinki, 137–168.

Saltonstall, Robert (1959) *Human Relations in Administration.* New York: McGraw-Hill Book Company.

Samoff, Joel (1990) *Education and Social Transition in the Third World* (co-authored with Martin Carnoy) (Princeton: Princeton University Press,).

Samoorganizatsija i nauka: opyt filosofskogo osmyslenija (1994) M.

Sarno, A. (1999) Perspectives for raising basic labor motivation of Russian employees. *Social issues of labor relations in transformation period*, Samara: Samara State University, 1999, 179–190.

Schienstock, G. & Hämäläinen, T. (2001) *Transformation of the Finnish Innovation System: A Network Approach*. Sitra Reports series 7, Helsinki: Sitra.

Secondary vocational, higher education vocational establishments of St Petersburg in 2002/2003 (2003) St Petersburg, 240.

Senge, P. (1990) *The Fifth Discipline: The art and practice of the learning organization*, Doubleday, New York.

Senge, P. (1990) *The Fifth Discipline: The art and practice of the learning organisation* Doubleday: New York.

Shkaratan, O. I. (1986) *Promyshlennoe predprijatie*. M., Economika.

Sistema podgotovki i povyshenija kvalifikatsii rukovoditelei: opyt sotsialisticheskikh stran (1985) M, Izdatel'stvo Akademii narodnogo khozjaistva pri Sovete Ministrov SSSR.

Smolin, O. (1996) Natsional'naja bezopasnost' Rossii i obrazovanie. *Alma Mater*, Vol. No 3, 12.

Sokolov, A.V. (1987) Dolgosrochnoe prognozirovanie tendentsii razvitija obrazovanija metodami Forsight. *Voprosy obrazovanija*, No3.

Sokolov, B.S. (1998) Real'naja politika v oblasti obrazovanija i soderzhanie predstojashchik preobrazovanij. *Standarty i monitoring v obrazovanii*, Vol. 1, 8–14.

Sovetskaja upravlencheskaja mysl' 20-kh godov: Kratkij imennoi spravochnik (1990) M., 19.

Statisticheskij press-bjulleten' (1988) Goskomstat SSSR, M., 1988, №7, 75.

Stewart, T. A. (1999) *Intellectual Capital: The New Wealth of Organizations*. Currency/ Doubleday, New York, NY.

Stewart, T. A. (2001) *The Wealth of Knowledge Intellectual Capital and the Twenty-First Century Organization*. Nicholas Brealey, London.

Strategicheskij plan Sankt-Peterburga (1998) St Petersburg, 1998, 37.

Sudarenkov V.V., Grachev V.A., Buslov E.V. (1998) O razrabotke natsional'noi doktriny obrazovanija Rossiiskoi Federatsii. *Standarty i monitoring v obrazovanii*, Vol. 1, 5.

Sutton, Francis X., Seymour E.Harris, Carl Kaysen & James Tobin (1956) *The American Business Creed*. Cambridge: Harvard University Press.

Sviridov O. (2003) Evangelie konkurentosposobnosti, *Economika, obrazovanie segodnja*. http://www.eed.ru/higher_education/e_37.html.

Taylor, F. (1895). *A Piece Rate System*. NY: McGraw Hill.

Taylor, F. (1947). *Scientific Management*. NY: Harper & Row. (originally published 1911).

Thackray J. (1987) America´s Corporate Hype. *Management Today*, March, 69–70, 72, 75.

Thackray, J. (1986) The Great American Robot Fiasco. *Management Today*, March, 69–114.

The Global Competitiveness Report (1997) World Economic Forum, Geneva, 320.

The Global Competitiveness Report (2004). World Economic Forum, Geneva, 2004, 57.

Tikhomirov, V. (2005) *Kachestvennoe obrazovanie dlja vsekh kak osnova formirovanija obshchestva znanij*. Doklad na Mezhdunarodnoi konferentsii 'UNESCO Between Two Phases of the World Summit on the Information Society». – 17.05.2005 http://confifap.cpic.ru/upload/conf2005/reports

Tikhonov, A.V. (2000) Sociologia upravlenija, Teoretiheskie osnovy. St. Petersburg.

Tremblay, Jean-Marie (2006) Henri de Man, 1885–1953, *Professuar al' Universite libre de Bruxelles, Depute et ministre dans le parlament belge,* University of Quebec, 9 October.

Trud v SSSR: Statisticheskij sbornik (1988) Goskomstat SSSR, M., Finansy I statistika, 1988, 280.

U.S. Department of H.E.W., *Work in Amerika*, Cambridge, MA: MIT Press, 1973.

U.S. Senate Hearings on S.3916, 1972 , *Worker Alienation in 1972*, Washington, DC: U.S.

Vedomosti Verkhovnogo Soveta SSSR, (1987) Vol. 26, No 385.

Vishnjakov, J. D. (1998) *Problemy ekonomicheskoi bezopasnosti i podgotovki spetsialistov*. Ekonomicheskaja bezopasnost': voprosy realizatsii, M., 182.

Volkov, J.G. (1997) Poslevuzovskoe I dopolnitel'noe professional'noe obrazovanie v Rossii. *Sociologicheskie issledovanija*, No 9, 56–66.

Volkova, L. (2002) (Ed.) *Ackoff's Best His Classic Writings on Management*, St Petersburg: Piter.

Wallac, Claire (2007) Bridging and Bonding Social Capital: which is more prevalent in Europe? *European Journal of Social Security (with Florian Pichler*), 9, (1), 29–54.

Wallace, G. (2007) *The Research Evidence against Informal Learning*, Retrieved May 19, 2007.

Wenger, E. (1998) *Communities of Practice, Learning, Meaning and Identity*, Cambridge, Cambridge University Press.

Whiddett, S. & Hollyforde, S. (1999) *The Competencies Handbook*, Chartered Institute of Personnel, Management, London.

Woolcock, M. (2001) The place of social capital in understanding social and economic outcomes, *Isuma: Canadian Journal of Policy Research* 2:1, 1–17.

Woolcock, M. (2001) 'The place of social capital in understanding social and economic outcomes', Isuma: Canadian Journal of Policy Research 2:1, 1–17.

Wrege, D. (1995). F.W. Taylor´s Lecture on Management, 4th June 1907. *Journal of Management History* 1:1:4–7.

www.gov.spb.ru/day/statistika/stat/itigy_2004

Zaslavskaya, T.I. (1999) Transformatsionnyi process v Rossii: sotsiostructurnyi aspect. *Societal'naja traektorija reformiruemoi Rossii*. IssledovanijaNovosibirskoi economiko-sociologicheskoi shkoly, (Eds.) T.I.Zaskavskaya, Z.I. Kalugina. Novosibirsk, Nauka.

Zavgorognjaja, A., Mierin', L. (1999) Obrazovanie – bazovyi faktor obespechenija konkurentnykh preimushchestv Rossii v XXI veke. Izvestija Sankt-Peterburgskogo Universiteta Ekonomiki i Finansov, , Vol. 2(18), 86.

Zelvys, R. (2000) *Managing Education in a Period of Change*. ELI Publishing: Oslo.

Zimbalist, A. (1975) The Limits of Work Humanization. *Review of Radical Political Economics*, Vol. 7, 50–59.