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# CASE STUDY ON RUSSIAN OFFSHORE SOFTWARE DEVELOPMENT – STRATEGY IN THE MAKING

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# Case Study on Russian Offshore Software Development - Strategy in the Making

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## Foreword

The Northern Dimension Research Centre (NORDI) is a research institute run by Lappeenranta University of Technology (LUT). NORDI was established in the spring of 2003 in order to co-ordinate research into Russia.

NORDI's mission is to conduct research into Russia and issues related to Russia's relations with the EU with the aim of providing up-to-date information on different fields of technology and economics. NORDI's core research areas are Russian business and economy, energy and environment, the forest cluster, the ICT sector, as well as logistics and transport infrastructure. The most outstanding characteristic of NORDI's research activities is the way in which it integrates technology and economics.

LUT has a long tradition in making research and educating students in the field of communist and post-communist economies. From the point of view of these studies, LUT is ideally located in the Eastern part of Finland near the border between EU and Russia.

This volume describes Russian offshore development industry with the focus on one particular software company located in St. Petersburg. The analyses of the international competition and potential market areas are also included. The study has been compiled for educational purpose for *ICT Connector Project Russia* of the International Finance Corporation (IFC) with support from Ministry for Foreign Affairs and the Ministry of Trade and Industry of Finland in the framework of the European Union Northern Dimension Policy. On behalf of Lappeenranta University of Technology this research is part of a larger project *Competition and Co-operation between Finnish and Russian Enterprises* which is part of the research programme *Russia in Flux* of the Academy of Finland and is financed by the National Technology Agency Tekes.

Lappeenranta, January 2005

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## Background of the study

The *Case Study on Russian Offshore Software Development* has been compiled for *ICT Connector Project Russia*[1], which is targeted to provide technical assistance to Russian software developers. The software company research and the compilation of the present case study were carried out by the Northern Dimension Research Centre at Lappeenranta University of Technology, Finland. The study has been done for educational purposes and its main target is the education of IT professionals and managers in offshore software development industry.

The case study approaches Russian offshore development industry from three perspectives:

1. Company strategy

   What have been the strategic and operational actions of the case company and what kind of challenges does it face?

2. Financial issues

   What is the financial environment where the company operates and what factors determine the financial success of the company?

3. Industry challenges

   What are the overall trends in offshore software development industry on global, national and regional levels?

### Implementation

The research group has used various statistical, financial, economic and business reports, as well as journals and periodicals as sources in compiling the material. Due to the nature of the industry, much material has also been readily available in the Internet.

The main portion of the data for the research project has been collected by interviews in the case company. In addition, several experts in the offshore software development industry and investment sector have been interviewed. Thanks to the interviewees' valuable comments, opinions and viewpoints, the researchers believe to have achieved at least a certain level of objectivity in their own conclusions.

[1] The Russian ICT Connector Project is a joint initiative of Finpro, the International Finance Corporation (IFC) and a number of Finnish information and communication technology companies. The project is supported by the Ministry of Trade and Industry and is organised under the framework of the Private Enterprise Partnership (PEP) of the IFC. The mission of IFC in the project is to develop Russian software companies' ability to work with foreign companies

# Contents

## Abbreviations

| | |
|---|---|
| BPO | Business Process Outsourcing |
| CAGR | Compound Annual Growth Rate |
| CIS | Commonwealth of Independent States |
| ERDI | Exchange Rate Deviation Index |
| FDI | Foreign Direct Investment |
| FPP | Fixed Price Project |
| GAAP | Generally Accepted Accounting Principles |
| GDP | Gross Domestic Product |
| GNI | Gross National Income |
| ICT | Information and Communication Technologies |
| IDC | International Data Corporation |
| ISO | International Organization for Standardization |
| IT | Information Technology |
| ODC | Offshore Development Centre |
| OECD | Organisation for Economic Co-operation and Development |
| PPP | Purchase Power Parity |
| R&D | Research and Development |
| ROE | Return On Equity |
| SME | Small and Medium-Sized Enterprise |

## STPSoft Personnel Mentioned in the Study

| | |
|---|---|
| AM | Administrative Manager |
| BD | Business Development Manager |
| CA | Chief Accountant |
| CPO | Chief Production Officer |
| EM | Executive Management |
| GM | General Manager |
| HR | Human Resources Manager |
| MD | Managing Director |
| QM | Quality Manager |

# 1. Introduction

The competitive situation where the top management of a St. Petersburg-based software development company STPSoft found itself in summer 2004 was filled with many challenges and unanswered questions, which required immediate actions. Especially the General Manager was concerned; after all, he had given birth to the company and led it as one of the most respected offshore software development companies of its kind since 1993.

The Managing Director also knew that something had to be done due to the major challenges imposed by cheaper offshore development companies charging to the western markets from India, Israel and Eastern Europe – even China started waking up for business opportunities in software development business.

This was the situation where the management team of STPSoft was called together to have a potentially long and intensive strategy session. The team that gathered consisted of the GM, the Managing Director (MD) (who together form the Executive Management, EM), the Business Development (BD) Manager, Administrative Manager (AM), Chief Production Officer (CPO), Chief Accountant (CA) and Human Resources (HR) Manager. All good people, handpicked by the GM, who had experienced the high and lows in the growth path of STPSoft.

## 2. Company background

STPSoft is an offshore software development company located in St. Petersburg, Russia. STPSoft and its subsidiaries Jamison Software (USA), SaintP Software (Finland), and STPSoft Recruiting (St. Petersburg) employ currently 117 persons. STPSoft sells custom software development services in two main forms: offshore development centres (ODC) and fixed price projects (FPP). In addition, STPSoft offers quality assurance and testing services for various applications. A significant share of its customers provides IT products or services. The turnover of the company was USD 1.5 million in 2003.

STPSoft, a privately owned family business, is strongly personified in its founder, the present General Manager. The GM had higher education at a university in Leningrad, and graduated as a radio engineer in the early 1970s. His experience in hardware engineering and later software engineering in tasks that were very complex and scientific in nature paved the way for him to become a software director of the St. Petersburg branch of the first-ever Russian-US joint venture in 1989. During this time, he learned some of the basics of market economy and business management.

After the GM had had his first experiences with market economy, he took a position as an assistant professor in a local academic institute and used every open moment to establish connections with potential customers to start his own business. This was due to the great turmoil in the Soviet Union/Russia, which made him realize that there would be no state to support him and his family. He (and many others at the time) realized that he could employ some of the thousands of unemployed but talented and inexpensive software developers, who had no place to go after the collapse of the Soviet Union. After much PR, he finally succeeded in finding an US-based customer and STPSoft was established by him and his family in 1993.

As the business of STPSoft started to grow in the US, they came up against a problem with payment transactions from the United States. This led to the foundation of Jamison Software[2] in USA, which facilitates business relationships with US-based customers.

The next big change in STPSoft's business operations occurred in 2000, when it in the middle of the dot.com boom established a recruiting agency, STPSoft Recruiting, to ascertain the availability of capable programmers. However, the dot.com crash prevented further expansion plans for this branch, and today STPSoft Recruiting is an independent subsidiary of STPSoft. The tight link between STPSoft and its recruiting agency gives them a competitive edge when

[2] Jamison Software was established with the help of a local consultant, who still acts as a middleman, but has no formal position in STPSoft operations.

recruiting new personnel, and provides useful information of the current market situation and competitive circumstances.

The final piece of the STPSoft-related business, SaintP Software, was established in Finland in 2002. The expansion of STPSoft to these markets was the result of the perceptions by the GM on the availability of neighbouring outsourcing markets. In Finland the markets are not very large, but the competition is less fierce and it was easier for STPSoft to work with adjacent clients through its Finnish subsidiary.

## 2.1. Owners

STPSoft is a privately owned company: the GM owns the largest share of the company, and his family members, who are both involved in STPSoft, have also significant shares of the company. The rest of the shareowners are also involved in the company and its circle of acquaintances. The ownership structure implies limited capital and leads to utilisation of cash flow to finance the company's investment needs.

## 2.2. Management

In the management team of STPSoft, the GM has the largest responsibility for the strategic direction of the company. His employees see him as a manager of their liking, because he is capable of delegation and giving freedom for them. His humble attitude is portrayed in his own words: "I am still an amateur", while he emphasizes that the others in his management team are professionals. Additionally, the GM is appreciated for his PR skills – he is said to have "a great role in making occasional, but constant, appearances in major IT events", this way creating awareness and interest for his company and Russian software development industry. He has also been involved in high-ranking positions in IT associations, from which he has developed extensive knowledge of the industry and established good relationships with major players.

The Managing Director (MD), whose background is in aviation industry, is a professional in software business and makes up the second half of the Executive Management (EM). The MD's overall responsibility is making sure that the daily operations are as effective as possible and the projects support the company strategy. In addition to these, the MD is involved in strategy making, planning and customer portfolio management. When comparing the responsibilities of the GM and MD, a generalisation made by them is that the "GM equals **contact** and the MD equals **contract**". The MD draws up the details of the contract and finds the right people to work in the project. Finally, the MD is also responsible for the company structure along with general supervision and monitoring.

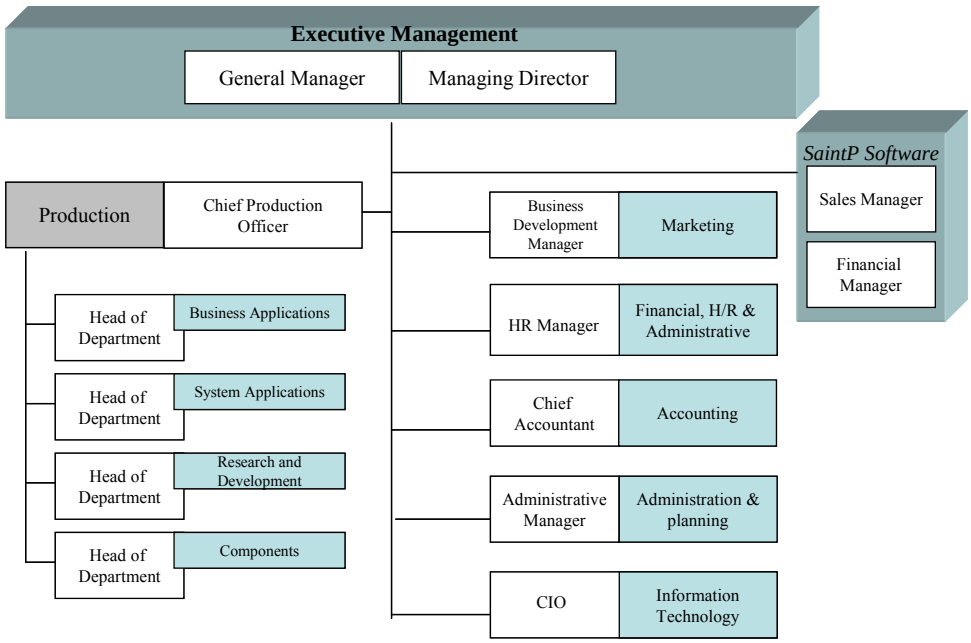


**Figure 1. Organisational chart of STPSoft**

Figure 1 depicts the organisational structure of STPSoft, including SaintP Software. The BD Manager, HR Manager, Administrative Manager and Chief Production Officer are mostly involved in supporting the strategic decision-making of the Executive Management. In addition, the Sales Manager, whose position is at SaintP Software, supports the strategic planning, especially concerning operations in Finland.

The BD Manager's responsibilities include marketing, preliminary project negotiations, planning and market research. The primary responsibility of the HR Manager is recruiting, accompanied by taking care of the working environment. The Administrative Manager plans income and expenses, and has the overall responsibility of accounting. The AM works with the MD in writing agreements. The Chief Production Officer plans, directs and coordinates all software production activities in the company. This involves estimating potential projects, project-level management in the HR and keeping constant contact with the rest of the management team. The Sales Manager has responsibility for selling, project negotiations (including project evaluation) and customer relationship management. The Sales Manager's activities are focused on the customers in Finland, whilst the BD Manager has the main responsibility over customers in the rest of Scandinavia.

The company's major emphasis is on the quality of its software development processes, which it takes pride on. They had a Quality Manager (QM) in their management team, who introduced quality management systems in the company. The QM left the company some months ago, and since that, the responsibility for constant improvement of their ISO certified processes has been shared by the managers. The company is planning to hire a new QM within a year.

## 2.3. Personnel

Currently STPSoft employs altogether 110 persons, of whom 74 are developers and 19 testers. The number of administrative and other staff is currently 17. STPSoft aims for high-end development – the HR Manager explains that they have seven top specialists to each three entry-level developers. In addition to this personnel, the recruitment agency employs five people and SaintP Software two. The number of development personnel is in constant change, as short-term projects are started and finished, and the size of each ODC is adjusted according to the client's preferences.

From day one, the GM has acknowledged the importance of holding on to the best people. He, and later the HR Manager of the company have put emphasis on their employees' on-the-job satisfaction. The working environment is considered to be friendly, where a family feeling is upheld mainly by the Administrative Manager and the HR Manager, who keep their doors open for their employees as much as possible. Especially good project managers are seen as a critical resource, a potential bottleneck, which is "a breed of its own", and their satisfaction at their work is seen particularly important. The HR Manager has several means to keep the project managers satisfied: for example, special insurances and loans are available for them. They are also very much taken into managerial decision-making, through which the management pursues to serve their professional ambitions.

When recruiting, the HR Manager can utilise the knowledge base of STPSoft Recruiting, which the HR Manager sees as a major advantage for them. It is felt that they get the best developers and engineers through STPSoft Recruiting. It also gives an idea for them about the recruiting situation in St. Petersburg, in terms of who is hiring whom and with what kind of salary.

## 2.4. Business Offering

STPSoft sells software development and testing services. Their software development services include business applications development, migration and reengineering; solutions based on the Windows Server System and system applications development. STPSoft software development processes were certified according to ISO 9001:2000 standard in July 2003.

STPSoft has two major business models: offshore software development centres (ODC) and fixed price projects (FPP). Offshore software development from the client's point of view is called *offshore outsourcing*, as it does not occur in the client's home country and it is done by outside programmers. STPSoft have also had an e-commerce product, a web shop, which is no longer under development, but produces some revenue in form of royalties.

What is characteristic for software development business is that the competitive edge of the company is in intangible assets, i.e. intellectual assets, brands and reputation. The offering resembles traditional services, with the distinction that the service the programmers produce (code) is not perishable, as for example in barbering (a haircut). This does not mean, however, that fluctuations in demand are not difficult problems for software development companies. Software product companies are able to produce their products in advance and sell later, but in tailored software, which STPSoft produces, this is not an option. Thus, guaranteeing constant demand for the maximum utilisation of their workforce is a critical success and failure factor for them.

In software development in general and in offshore programming particularly, the specification of requirements for certain software is vital. This needs to be specified precisely and unequivocally, before getting into details of the realization. In offshore software development and outsourcing in general, this is usually the responsibility of the client. Thus, the software development company is only responsible for programming according to specifications.

However, it is not rare that a software project comes up with difficulties with ambiguous specifications and afterwards poor communication between the developer and the client. This leads to unsuccessful projects and image problems for either or both of the organizations involved. In fact, one of the golden rules in software development is to "…be very thorough in gathering requirements, ensuring that all parties agree on what they are – and make sure you document them" (SearchWin2000.com).

In STPSoft the management has been aware of such challenges in their business, and they have managed to keep up long-term relations with their customers. Sometimes they have had to sacrifice their short-term profitability for long-term relationships. Other significant factors in their success have been easiness of communication and access. They have decided to hire only people with English skills. However, in some cases, they have hired developers with no skills in English, but have required that they will have to learn fast, for example, by participating in a company sponsored language course. The internal language in the company is English and their representation in form of subsidiaries abroad has brought them both physically and mentally closer to their customers.

The STPSoft turnover is divided more or less 50/50 between FPPs and ODCs. They are both considered important, even if ODCs are more lucrative in terms of stability and long-term relationships. The most important reason for this is the optimization of personnel capacity, which may be damaged by either long-lasting repetitive work or by constant pressure due to urgent deadlines. The ODCs expose developers to the former while FPPs to the latter.

In general terms, the ODCs are considered preferable for larger companies. Experts see that larger companies are interested in guaranteeing the quality received from their outsourcing company and pursue long-term relationships. Projects are considered by the Executive Management of STPSoft as a balancing force and a road to ODCs.

### 2.4.1. FPP

Typical projects for STPSoft include developing integrated software for enterprise security; components (such as VBX, OCX and ActiveX) for text editing and video capture; large-scale client-server business applications and 3-tier architecture; and e-commerce software, Internet programming and web design.

The average number of projects by STPSoft amount to 25-30 per year and their length varies from two weeks to two years. The shorter projects are done only for long-term project customers, as they are not always profitable *per se*. The project evaluation is of significant importance: the particular technology domain, the particular customer and the technological competence of STPSoft developers all have their role when estimating the long and short-term profitability of the project.

In fact, for a relatively long time STPSoft did not succeed very well in project evaluation. The profit margin they received was relatively thin in comparison to their ODCs. In recent years they have improved their effectiveness in planning, especially in relation with optimal project size and resource allocation. In addition, specialisation in certain areas has been raised as a major factor for the overall improvement in the profitability of their projects.

When a new customer wants to outsource to STPSoft, a relatively short project acts as the first form of co-operation. This is considered to be a win-win option, because during that project both the customer and STPSoft can evaluate their interest in the continuation of the co-operation. After the test project, STPSoft prefers longer projects (one month is the bottom line) due to communication costs, project evaluation, administrative issues, etc. With established customers, they are prepared to adapt to the customers' wishes.

### 2.4.2. ODC

Offshore Development Centre consists of a dedicated pool of software professionals who form a virtual extension of the client's team. An offshore development centre offers the benefits of one's own team without the difficulties of managing it. In addition, offshore development centres enable clients to scale up their teams, in terms of numbers or skill sets. (BrickRed.com). In ODCs the client has the executive power towards STPSoft programmers, but typically there is a STPSoft project manager, who manages the ODC on the daily basis. He also communicates with the client's contact person.

At the moment, STPSoft has five offshore development centres in St. Petersburg, each different in size, the number of programmers varying from 1 to 15. The longest continuous ODC has lasted eight years (and is still running), and its size has varied between 2 and 32 programmers. After such a long period, the software developers of STPSoft understand the client's needs perfectly, which makes them more valuable for the client. A downside of long-term ODCs is that the employees want to move to other projects because of the monotony of the work, but the client insists on keeping them. This is a real challenge, to which the HR Manager has no straight answers. An additional challenge in the ODC model is that when salary-raising pressures emerge, the raises cannot be directly passed on to the client. STPSoft may need to raise the developers' salaries because of increased costs of living or accrued work experience, but in the ODC model, a re-negotiation for the price of the development team must take place. In the worst case, the client is unwilling to do this.

STPSoft's aim is to concentrate more and more on offshore development centres, because they are more profitable and predictable than common development projects. They pursue to lead their project customers towards ODCs. The management team is unanimous in this: the ODC is considered to bring the basic cash flow for the company, which facilitates investment readiness, long-term planning and HR management. The profits can be invested in the R&D department, which experiments with different technologies.

## 3. Russian Software Business Currently and Growth Prospects

In Russian economy, software development has been one of the most productive and rapidly growing sectors, and STPSoft has ridden on the crest of this wave. In 2000, labour productivity showed as much as 38 % of the productivity level in the USA, whereas the average level in Russia was 18 %, and in project programming it was as high as 72 % of the same index in the USA (Averin and Dudarev 2003). In fact, it has been proposed that in the programming area, Russia is growing to become the next India or Israel (Dudarev et al. 2004). In Russian IT industry (see Table 1 below), software development has still a minor role in terms of turnover. In addition, within software development, product making companies have grown faster than companies making programming to order. For 2004, the estimates are that software product companies in Russia have over 3 ½ times larger turnover than custom made software development companies.

**Table 1. Growth rate of combined turnover of the IT companies in Russia 43.6% (RUR 187.94 bn in 2003, RUR 130.86 bn in 2002)**

| | 2002, bn$ | 2003, bn$ | 2004E, bn$ | growth % |
|---|---|---|---|---|
| PC | 1.70 | 1.84 | 2.13 | 16 |
| Other hardware | 1.34 | 1.53 | 1.80 | 18 |
| System integration | 0.84 | 1.13 | 1.47 | 32 |
| Standard products | 0.59 | 1.00 | 1.42 | 42 |
| Custom made programming | 0.23 | 0.30 | 0.38 | 25 |
| All | 4.70 | 5.80 | 7.20 | 29 |

Source: CNews.ru 2003

Russian software exports have also been booming, with annual growth rates of approximately 40-50 % as presented in Figure 2. The forecast for 2005 indicates a decelerating growth, which is considered to be due to lack of governmental support and depletion of the intellectual pool.

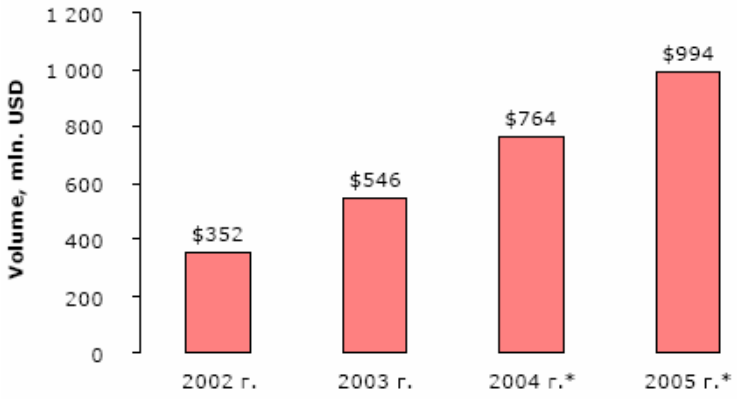


**Figure 2. Volume of Russian software export in 2002-2005. Source: CNews Analytics & Fort-Ross 2004**

STPSoft defines itself as an offshore software development company. The *Offshore software development industry survey 2004* (Outsourcing-Russia.com) reveals that of all offshore development companies 48 % make their own products development, and 43 % IT consulting and system integration in addition to software development and maintenance. STPSoft does not have products of its own currently, so its core area is custom-made programming. Nevertheless, the management has pondered on the topic of productisation, but has not made any concrete actions to start their own product development yet.

STPSoft is located in St. Petersburg, which is the second largest offshore software programming centre in Russia (Table 2). The companies are smaller in size than Moscow-based companies, but their number is greater.

**Table 2. Main offshore programming centres (based on data from 2001)**

| | Share of IT students (total 4,200) | Share of offshore programming export (total USD 154 mn) | Number of companies (total 45) |
|---|---|---|---|
| Moscow | 50.0 % | 49.0 % | 36.4 % |
| St. Petersburg | 37.5 % | 38.5 % | 50.0 % |
| Novosibirsk | 12.5 % | 12.6 % | 13.6 % |

Source: Averin and Dudarev 2003

The offshore programming market in Russia reached USD 154 million in 2001, and it was forecasted to grow 50 % annually (Averin and Dudarev 2003; Terekhov 2001). For comparison, Indian ICT industry amounted to USD 12.2 bn in 2000-01 and has been evaluated to be USD 50 billion in 2008 (Aspire Systems 2001).

## 3.1. People are the Critical Resource

Relatively cheap intellectual capital has always been one of the sharpest edges in the competitiveness of the Russian ICT industry. Taking advantage of the vast scientific potential, many ICT companies, especially in software development, have been established upon university departments and they have remained interconnected. The symbiosis of university departments and software companies is a common practice in Russia, and the advantages of it are mutual. It gives the companies the opportunity to employ highly qualified university staff, and to prepare young personnel, implementing special education programs and choosing the best students. Practical experience then lifts up the knowledge level of graduates, which are more capable to solve complex problems (Averin and Dudarev 2003). STPSoft has had close collaboration with many top-level universities in St. Petersburg, but in recent times they have widened their scope in recruiting.

A number of software development companies were established on the basis of the vast amount of unemployed, but very talented software developers. Due to the continuous active

participation of St. Petersburg IT companies and scientific institutions in the educational process of software specialists, engineers and future scientists, the graduates of the St. Petersburg universities are able to solve problems of high level of difficulty and they match the skill level of developers in any country. What is more, the intelligent programmers are still low-priced by western standards. However, the local salaries are increasing rapidly, as presented in Figure 3 and Figure 4.

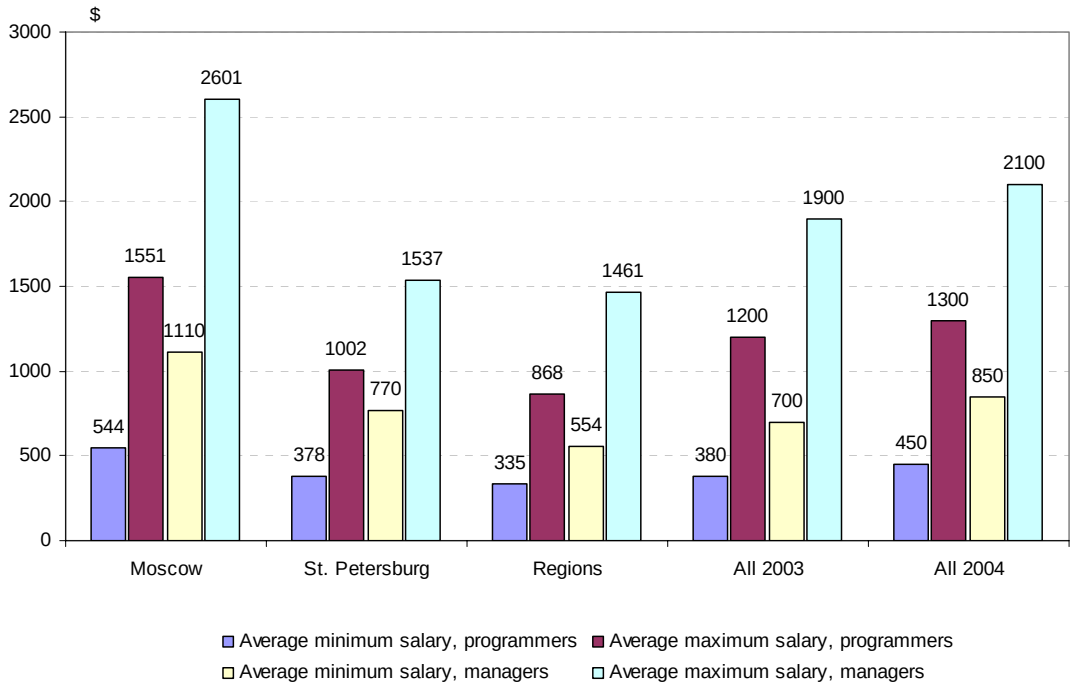


**Figure 3. Average monthly salaries of software engineers and managers, USD. Source: Outsourcing Russia.com 2003 and 2004**


**Figure 4. Level of salaries in the industry, USD. Source: CNews Analytics & Fort-Ross 2004**

In only one year, the average minimum salary of software engineers has risen by USD 70, which is an 18 % increase from 2003. Especially the salary level of project managers indicates heightened competition on human resources. As the companies are becoming more

frustrated by the shortage of IT professionals and the associated rising costs, people have become the most valuable resources, especially those who are not only professionals in a particular field but who are able to learn and improve continuously. Companies are seeking not only for "the right person to the right place" but for the opportunities to organize their business and hence, human resources in the most flexible way. Technological changes are occurring so rapidly that both employers and employees are having a tough time in keeping up with them (Terekhov 2001). One option for broadening the pool of potential employees is recruiting personnel from other CIS countries.

## 3.2. Competitive Environment

Software development is truly international business: customers and development companies are scattered around the world. The elements that influence the competitiveness of software industries are presented in Table 3.

**Table 3. Success factors in software export**

| Success factors | Sub-categories for success factors | Assessment of Russia |
|---|---|---|
| I. Demand | Demand from abroad for offshore work | |
| | Domestic demand for software | |
| II. International Linkages and Trust | Trust – development of relationships, common culture, language | Foreign representation has improved in recent years, while marketing capabilities are still somewhat unsatisfactory.<br>Difficulties in visiting Russia (or from Russia) due to visa requirements.<br>World track record poor, but improving.<br>Piracy is no longer a problem. |
| | Diaspora – links with emigrés abroad | |
| | Marketing and in-country representation | |
| | Piracy and copyright- effective laws, protection of intellectual property | |
| III. Software Industry Characteristics | Competition – spurring quality, efficiency, etc. | Significant improvement in understanding business process practices and project management.<br>Many companies too small for certification.<br>Lack of forward-looking strategic planning and too narrow offerings. |
| | Clustering – co-location of several firms | |
| | Collaboration – through industry associations, etc. | |
| IV. Domestic Input Factors/ Infrastructure | Human capital – technical skills, education, experience, English | Excellence in in-depth technical skills, experience in R&D and complex projects.<br>Excellent educational system.<br>European/Western culture.<br>Location close to Europe.<br>Competition on cost basis getting harder. |
| | Quality of life/wages – sometimes at odds | |
| | Technological infrastructure | |
| | (Financial) Capital | |
| | Research and development | |
| V. National Vision/ Strategy (governmental policies) | Participation of industry association | Industry associations still behind NASSCOM[3].<br>Lack of government support.<br>Overall business environment improving, but specific law reform and enforcement still needed. |

Source: Hawk and McHenry 2004

The success factors named in Table 3 are meant for a specific country, but some of them are also applicable for individual companies. The executive management of each company has to make sure that they achieve the best solution for their needs with reasonable efforts.

The competition between St. Petersburg software development companies for customers is not considered intense by STPSoft management. They feel that their specialisation areas and thus customer segments are different. In addition, STPSoft is one of the largest offshore

[3] NASSCOM is India's National Association of Software and Service Companies, the premier trade body and the chamber of commerce of the IT software and services industry in India.

software development companies in St. Petersburg, which may affect their perception of the competition.

The most intensive competition is for developers, i.e. intellectual capital. Russian software development industry has an advantage towards low-cost competitors mainly due to their IT talents. Local talents are, however, demanded by more and more companies, especially after the large international companies Sun Microsystems and Intel have established their own development centres in St. Petersburg along with the most recent newcomer Luxoft, an IBS Group[4] company, which has headquarters in Moscow.

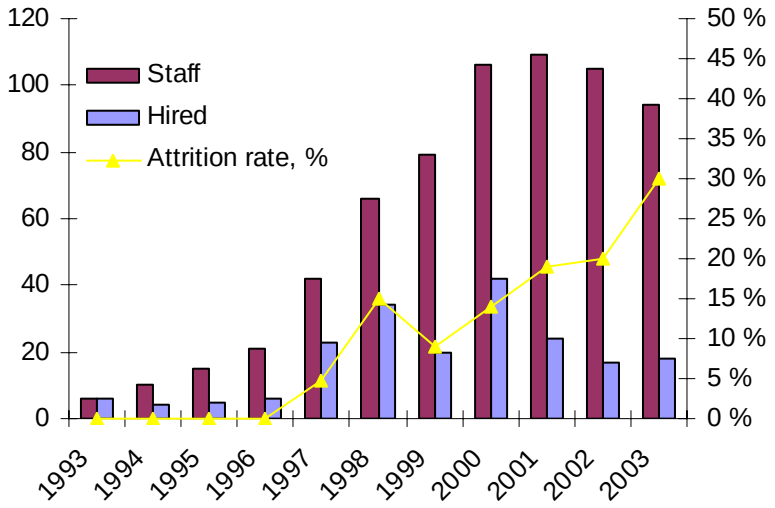


**Figure 5. Changes in the personnel of STPSoft**

The attrition of employees from STPSoft has accelerated in recent years, as can be seen in Figure 5. However, some of the people who have changed jobs, have done so due to rationalisations by STPSoft as they have concentrated on certain areas and improved the efficiency of their operations.

STPSoft has felt the increasing competition for specialists, for example in Java development, where Sun Microsystems has been most active in the labour market. The graduates have also seen their opportunity and tried to push the limits in their pay claims. STPSoft management is still dismayed of the incident when a student fresh from the university applied for a job and bluntly asked for USD 1,500, which is roughly the average maximum level of project managers in St. Petersburg (see Figure 3).

[4] IBS Group (Informational Business Systems) – the second biggest player on the Russian IT market. Includes a group of companies such as IBS, Luxoft, Dealine, DellSystems. Annual turnover - USD 465 million. Number of employees – 3,000 persons.

Moreover, the phenomenon of headhunting by other software companies has crept in. It has been introduced mostly by western companies or young, aggressive managers. STPSoft is reluctant to phone directly to employees in other companies themselves, but they admit that soon this type of conduct may become necessary.

In general, STPSoft remains optimistic about the recruiting situation. They feel that with their good working environment and with the support from STPSoft Recruiting, they will have in the end the upper hand in the fight against their competitors.

## 4. Competition in Offshore Outsourcing Markets

Offshore outsourcing has been a growing trend since the middle of the 1990s. U.S. companies have pioneered in this development by shifting their application development to such countries as India, China, Russia, Eastern Europe and the Philippines (CIO Focus 2003). The original stimulus for offshore outsourcing was the tight domestic labour market in many countries along with the zero-time-to-market demand pressed by Internet economy. Later on the focus has shifted to cost effects because of the tight economic situation. India has a long tradition of being the destination country for offshore activities and it is nowadays undoubtedly a leading subcontractor in global software outsourcing (Figure 6). The increased outsourcing of American companies has mainly benefited Indian and Irish companies.

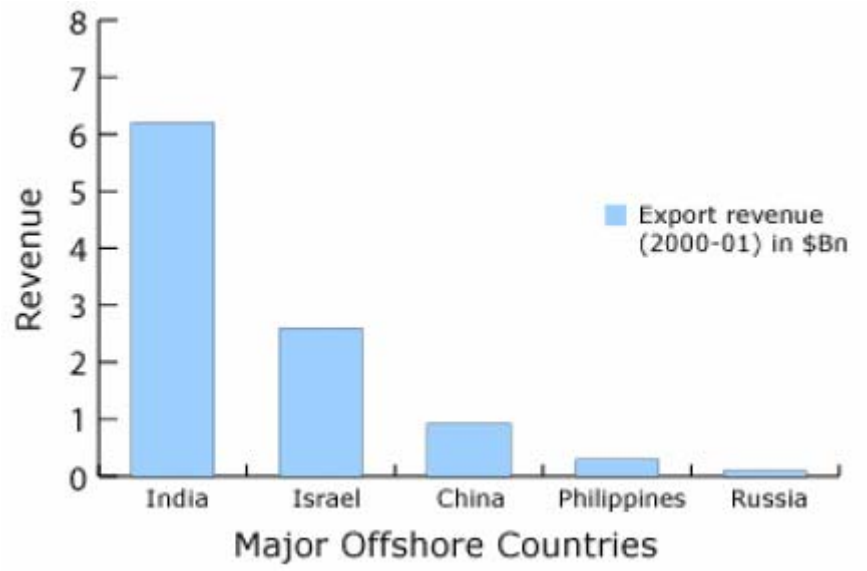


**Figure 6. Offshore software revenues 2000-01. Source: Aspire Systems 2001**

However, the competitive situation is constantly evolving and other countries strive to become taken seriously when the outsourcing destination is chosen. Gartner (2003) divides countries into four categories by their status: leaders, up-and-comers, challengers and beginners (Figure 7). The stage of the development also affects the complexity of performance. For example, Israel and Hungary provide even sophisticated software development tasks, whereas China, Vietnam and the Philippines are operating at the lower end of activities. It is also noted that companies from different countries tend to specialise in a certain outsourcing area.

| Leader | | Up-and-Comers | |
|---|---|---|---|
| India | | Belarus | Lithuania |
| | | Brazil | New Zealand |
| | | Caribbean | Singapore |
| | | Egypt | Ukraine |
| | | Estonia | Venezuela |
| | | Latvia | |
| **Challengers** | | **Beginners** | |
| Canada | Mexico | Bangladesh | Nepal |
| China | Northern Ireland | Cuba | Senegal |
| Czech Republic | Philippines | Ghana | Sri Lanka |
| Hungary | Poland | Korea | Taiwan |
| Ireland | Russia | Malaysia | Thailand |
| Israel | South Africa | Mauritius | Vietnam |

**Figure 7. Offshore outsourcing destinations. Source: Gartner 2003**

## 4.1. India

India has a vast pool of IT professionals with good English skills. It is known for both high productivity and high-quality products. The infrastructure is solid and there is extensive governmental support and a university support system. The number of IT workers reached 650,000 in 2003, with the prediction of more than 810,000 employees for 2004. The value of software and IT services was USD 13 billion in 2003. The IT sector's export for the same period was USD 11.8 billion, with software and IT services as a main component. Export comprises custom software (49 %), BPO services (24 %), and IT consulting (19 %). More than half of the export is targeted to the USA (68 % of software export in 2002). Historically, the Indian offshore outsourcing industry has mainly provided custom software. Nowadays, it aims to higher value markets for software products, embedded software and technology services. Also, there has been shift from onsite delivery to offshore programming in India (Export IT Report India 2004). According to Gartner (2003), Indian companies specialise in application outsourcing, IT outsourcing, business process outsourcing, product development, and contact centres.

## 4.2. Russia

There are around 150 Russian companies actively taking part in offshore software development. The outsourcing industry employs more than 10,000 professional programmers. Depending on the source of statistics, offshore software industry generated anywhere from USD 200 million to 450 millions in 2003 (Hawk and McHenry 2004). The annual growth estimates vary between 25 % and 50 %.

The educational system is excellent and there is a long tradition of natural science research. Therefore, the technical competence and problem-solving skills of Russian specialists are

highly developed. A growing number of companies have implemented modern quality assurance standards. Russia has had problems with legal and intellectual property infrastructure, but governmental support has begun to increase lately. The business infrastructure has shown signs of improvement, but financial transparency is still lacking. The English skills are deficient, but there is good cultural proximity to Europe. The Russian specialisation niche is high-end software engineering. A majority of companies (87 %) employ both customer-request and product models at the same time (Market-Visio 2002). The USA is the key market for the majority of Russian providers.

### 4.3. China

China has a good educational system. The workforce is diligent and has a good skills base for directed work. However, despite the governmental support, there exists government and bureaucratic interference. The legal and intellectual property infrastructure is deficient and the business infrastructure is also weak. The English language skills are not strong, which makes communication more complicated. Also selecting and engaging Chinese companies is difficult as the buyer must seek them out (Huntress 2003). The relative importance of China in IT outsourcing has been growing, with the niche specialisations there being embedded software and hardware services.

### 4.4. Other Countries

Canada and Mexico have an advantage of near location from the point of view of American companies. The Canadian infrastructure is well-developed and it has good government support and low country risk. On the negative side, the cost advantage is lower. Canada's niches are application outsourcing, business process outsourcing and contract centres. Mexican companies, for their part, are not that well-developed. (Huntress 2003)

Israel's software industry has shown rapid growth. The industry has been globally successful in areas such as data security and Internet-related software. The software export has grown from USD 110 million in 1991 to USD 2.6 billion in 2000 (Global Competitiveness 2002). There are 35,000 computer specialists, 14,500 of whom are employed in approximately 400 software companies (I.A.S.H. 2004). Israeli outsourcing companies specialise in high-end software and learning systems (Gartner 2003).

In Ireland, there are around 550 offshore development companies. The revenue was over USD 6 billion in 2000. Governmental policies strongly support offshore activities. Universities and IT companies are closely linked to provide the industry with appropriate work force. The main disadvantage is the high level of wages. Irish companies are especially specialised in packaged applications, localisation and product development.

The Philippines have a good business climate and culture. The country specialisation is on business process outsourcing, contact centres and animation. In Vietnam, the costs are very low and the technical skills are on a decent level. However, this market is new and the English skills are weak. (Huntress 2003)

It is generally believed that outsourcing to Asia leads to higher degree of conflicts due to language and culture differences as, for example, compared to outsourcing to Eastern Europe. Also the degree of satisfaction has been higher in outsourcing to Eastern Europe than to Asia. A cross-country comparison of application development and maintenance costs is presented in Table 4.

**Table 4. Application development and maintenance costs**

| | Programmer pay, USD | | Hourly rate, USD | |
|---|---|---|---|---|
| | From | To | From | To |
| Russia | 5,000 | 9,000 | 20 | 40 |
| Vietnam | 3,000 | 6,000 | 15 | 25 |
| Ireland | 23,000 | 36,000 | 40 | 80 |
| Canada | 20,000 | 40,000 | 40 | 80 |
| India | 5,000 | 9,000 | 20 | 40 |
| Mexico | 7,000 | 12,000 | 20 | 35 |
| China | 3,000 | 7,000 | 15 | 25 |
| Philippines | 5,000 | 9,000 | 20 | 40 |
| Singapore | 9,000 | 20,000 | 30 | 60 |

Source: Metagroup 2004

**Table 5. Gross National Income per capita (USD-based)**

| | **GNI** | **GNI PPP** | **ERDI** (GNI PPP / GNI) |
|---|---|---|---|
| Ireland | 26,960 | 30,450 | 1.1 |
| Singapore | 21,230 | 24,180 | 1.1 |
| Israel | 16,020 | 19,200 | 1.2 |
| Canada | 23,930 | 29,740 | 1.2 |
| Mexico | 6,230 | 8,950 | 1.4 |
| Lithuania | 4,490 | 11,090 | 2.2 |
| Poland | 5,270 | 11,450 | 2.2 |
| Estonia | 4,960 | 12,480 | 2.5 |
| Latvia | 4,070 | 10,130 | 2.5 |
| **Russia** | **2,610** | **8,920** | **3.4** |
| Belarus | 1,590 | 6,010 | 3.8 |
| Philippines | 1,080 | 4,640 | 4.3 |
| China | 1,100 | 4,990 | 4.5 |
| Vietnam | 480 | 2,490 | 5.2 |
| India | 530 | 2,880 | 5.5 |
| Ukraine | 970 | 5,410 | 5.6 |

Source: World Development Report 2005

Table 5 depicts the living standard differences in several competing offshore development countries in terms of GNI and GNI PPP[5]. ERDI stands for the exchange rate deviation index. Russia is in the middle group in the GNI comparisons, but has a much higher rank than India, for example. This indicates a necessity to compete against Indian offshore development companies by other means than price. Price can, however, be an argument against Israeli or Irish software development companies, but then the quality of the offer must be closer to their approach.

[5] There is no universally accepted concept to measure living standards and make comparisons between them. The crude way is to take the figures of GNI per head in terms of the national currency and convert them into USD at the going exchange rate. The result of this procedure is to grossly exaggerate the differences in real income between rich and poor countries. It neglects the fact that the price levels in various countries differ considerably. Thus, international living-standard comparisons of real income presently contain the purchasing power parity adjustment (PPP) – rate of exchange between currencies, which gives equal purchasing power over commodities. In principle, PPPs can be calculated for every good and service, as well as an average PPP for the economy as a whole. Several organisations, including the World Bank, publish annual PPP adjusted GNI per capita figures, which are presently widely used for international comparisons of the real living standard. Obviously, all these PPP estimates are based on "consumer baskets" which ought to reflect average consumption items and their values. PPP adjusted figures indicate that there is still a gulf between rich and poor countries in the world, but this gulf is not as deep as the crude (without PPP adjustments) measurements show. (Tiusanen 2003)

## 5. Markets

The value of the world-wide ICT market is EUR 2,167 billion in 2004. The regional distribution is illustrated in Figure 8. In proportion, the IT market is EUR 970 billion. As for Western Europe's IT market, its current value is EUR 293 billion, with growth expectation of 4.4 % for 2005 (EITO 2004). The annual IT expenditure in different countries is illustrated in Figure 9. The expenditure types include IT hardware, equipment, software and other services. (Eurostat 2004)

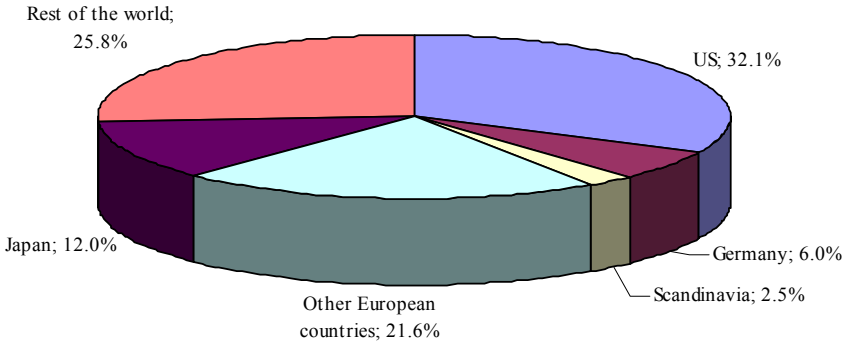


**Figure 8. ICT market by region. Source: EITO 2004**

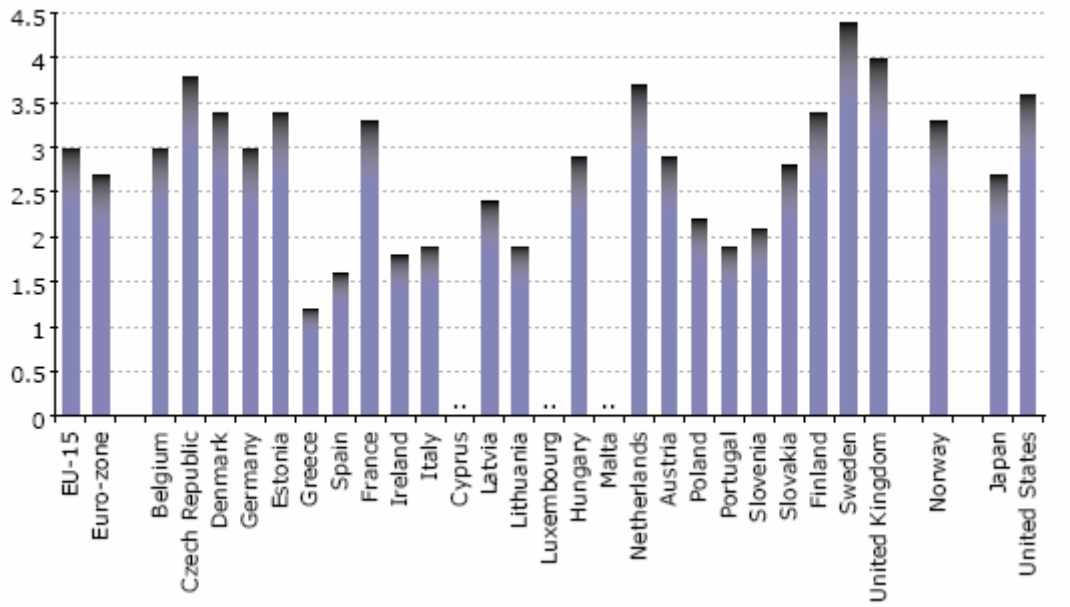


**Figure 9: IT expenditure in 2003, in % of GDP. Source: Eurostat 2004**

The software product industry is the fastest growing field in the Western Europe ICT market. In 2002, software products had an 11 % share of the whole ICT market, with a market value

of EUR 678 billion (Hietala et al. 2002). The value of the offshore software market grew from USD 210 million in 2001 to USD 330 millions in 2003 (Market-Visio 2003).

## 5.1. Finland

The turnover of Finnish ICT sector was EUR 48.1 billion in 2002. The ICT expenditure was 7.1 % of the GDP. The sector employed 153,663 workers (Statistics Finland 2004). Finnish software industry grew rapidly during the 1990s, but the cluster is still relatively small. In 2003, there were 1,100 companies in this industry. The companies are mainly owned by their founders or members of the founders' families. The share of foreign and external ownership is minor. The small size has enabled companies to quickly adjust their business operations according to the prevailing economic situation. However, because of the downturn of the economy, achieving growth has become more difficult. In such conditions, improving companies' processes and efficiency has received much attention.

The home market of the Finnish software companies is small and diverse, and therefore many of them have internationalised rapidly. There is also a trend towards a greater degree of productisation, which can be seen in the shift from local markets and custom software to international markets and mass-market software (Hietala et al. 2002). The demand for offshore R&D services is likely to grow as firms optimize the relationship between the expenses and outcomes. For example, Nokia is one of the firms that plan to decrease their R&D expenditures (IT viikko 2004). One possible way of making such economies is outsourcing.

A survey conducted by Market-Visio (2002) indicates that over 60 % of Finnish software companies considered outsourcing a possible option in the future. Nearly half of the interviewed Finnish companies had also experienced difficulties in finding domestic work force. Russia was indicated to be the most interesting offshore location, but only 10 participants out of 96 had prior experience of outsourcing to Russia. Both the Finnish and Russian sides thought the lack of trust toward Russian companies to be the single most important factor preventing broader cooperation. However, it was given far less importance by the companies with prior experience of cooperation.

## 5.2. Sweden

There are approximately 16,000 companies in the Swedish ICT sector. The turnover of the 500 largest companies is about EUR 58 billion. In 2003 the ICT expenditure was 9.3 % of the GDP. (IT Sweden 2004)

Cross-border collaboration in general is rather common in Sweden, 45 % of companies with more than 50 employees actively participate in joint R&D and innovation projects with other

organizations (IT Sweden 2004). The Swedish market for outsourcing shows good prospects for growth with offshore activities to be present in several branches of the IT industry. Swedish companies have a multifaceted approach to outsourcing. The reasons behind decision-making include acquiring skills, speeding the time-to-market and lowering the costs, as well as achieving better overall flexibility. Low cost alone is not sufficient, instead the main concern is that outsourcing must not harm overall operations. Russia is perceived both as being geographically close and having a similar business culture. Typically cooperation begins with outsourcing a small project, but it may evolve into partnership in the long run. Partnership is the preferred mode in case of vital development activities. (IT Företagen 2001)

## 5.3. Norway

In 1998, there were 4,900 ICT companies in Norway, with almost half of them located in the Oslo region. Nowadays, the Oslo region comprises around 3,665 ICT companies (IKT Norge 2004). The turnover of the Norwegian ICT cluster was NOK 195.2 billion in 2002. At that time, Norwegian ICT sector employed 86,863 people. The turnover of the "computer and related activities" industry group was NOK 44.6 billion in 2003. This group includes software consultancy and supply, data processing and database activities, among others (Statistics Norway 2004). The turnover of the 320 members of the largest IT organization, ICT Norway, corresponds to half of the industry turnover.

The level of export of ICT products and services is low, compared to other OECD countries. Despite the fact that a majority of companies practice export, its share of total revenues is small. In 2003, the export value of ICT goods was NOK 12.1 billion as compared to export of NOK 29.9 billion. The export has been strongly dominated by telecommunication equipment. (Statistics Norway 2004)

The Norwegian IT industry has traditionally received little attention worldwide. Its relatively low international presence is one explanation for the country's marginal share in outsourcing statistics. However, some outsourcing activities have been undertaken with Indian and Russian firms (Imsland 2003).

## 5.4. Germany

Germany has the single largest IT market in Western Europe, and the third largest in the world, after the United States and Japan. In 2003, the ICT expenditure was 6.4 % of GDP as compared to the 6.7 % average of Western Europe (EITO 2003). In 2001, the market of IT services was USD 27 billion, and the market of IT hardware and software was USD 37.2 billion. IDC forecasts that Germany's IT market will grow at a compound annual growth rate

(CAGR) of 9.4 % from 2002 through to 2006, to reach USD 96.2 billion. (Export IT Western Europe 2002)

Outsourcing is also seen as a growing trend in Germany. According to Ernst&Young (2004), 60 % of German companies are planning offshore outsourcing projects. The majority of enterprises in Europe deploying application outsourcing are German (Export IT Western Europe 2002). The main driver of outsourcing decision is cost reduction. Russia is perceived as being closer in cultural sense than for example Asian countries.

### 5.5. The USA

In 2003 the ICT expenditure was 8.5 % of GDP (EITO 2003). The corresponding American IT spending was about USD 500 billion, with 26 % growth rate predicted for the next several years (Huntress 2003). Spending for global sourcing of computer software and services was approximately USD 10 billion in 2003, and is expected to grow to USD 31 billion in 2008 (Global Insight 2004). The biggest users of offshore outsourcing are technology, manufacturing and financial services. The degree of satisfaction is apparently high, because firms that already use offshore outsourcing are planning more investments in this field. (Huntress 2003)

### 5.6. Russia

According to RosBusinessConsulting (RBC) estimation, in 2003 the IT market turnover in Russia grew by 25 % compared to 2002 and reached USD 5.8 billion. This growth was determined mainly by the permanent demand on hardware. Hardware is still the most important sector, but Russia seems to be advancing to the next technological stage, as the role of software development and electronic commerce is growing. In 2003 the income from software development and custom programming increased from 35 % (USD 1.66 billion) to 42 % (USD 2.43 billion), while the income from hardware sales decreased from 65 % to 58 %. Nonetheless, 70 % of software products are imported and many Russian companies lose the competition to foreign suppliers. On the other hand, the use of pirate software in Russia has considerably decreased even in the small business sector, which is encouraging news for software development companies. The domestic IT market is showing signs of significant growth. In 2003, the sales volume of these companies reached RUR 12.2 billion (79 % growth compared to 2002).

# 6. Strategic Positioning of STPSoft

STPSoft is positioned within the top 10 of software development companies in Russia, not by size, but by recognition. However, STPSoft with its business models ODC and FPP is facing intensifying competition, both in terms of local human resources and in its target markets. The general feeling in the company is that they need to improve their core competences or find new development paths - otherwise the company will not survive in the long term. The management team of STPSoft has pondered on the subject and come up with some potential solutions for the situation.

## 6.1. Development of a Product

So far, in Russia, the most innovative and successful software products have emerged from scientific innovations initiated in R&D centres during the Soviet Union era. Now, when the public institutes do not produce high-tech knowledge at the same pace as before, the foundational challenge for companies is to hunt for the right ideas and develop them into innovations. The source of ideas can be e.g. perceived customer needs or employees' own ideas.

The customer needs are difficult for STPSoft to explore, as their business relies on developing applications mostly for IT houses, and more specifically, **offshore** IT houses. For example, integrators, a large customer segment for STPSoft, are according to the Sales Manager, "good cash cows…but they do not lift us up in the value-chain… their business is based on knowing their customer and doing things for their customer". Additionally, the management team of STPSoft is Russian (except for the Sales Manager), with little business experience from the West and low level of understanding of Western business processes. SaintP Software with its two employees has a major role in exploring and adopting the Western business customs, but it is too early to say how well the information diffuses to STPSoft organisation in St. Petersburg and how it affects their operations.

A more serious problem in own product development is its possible effects on the customers. As an outsourcing company, STPSoft feels that their clients would not be comfortable working with STPSoft, if they started developing their own product. Creation and maintaining trusted relationships between STPSoft and its customers has always been a guideline which they do not want to depart from.

STPSoft has experience of a product of their own and the web shop keeps on generating royalties, despite the fact that its development and full support was terminated a while ago. Currently, the GM considers that they do not possess sufficient resources and credibility for their own product development. However, STPSoft pursues to build up their experience in

product development through shareware, which also improves their reputation as a product developer.

## 6.2. Specialisation

About four years ago, STPSoft took in every project they could get. They were forced to learn new technologies and ways to co-operate with new customers on a regular basis. This hampered their overall effectiveness and profits. The Sales Manager explained:

> *"When we look at offshore outsourcing companies; a world-embracing approach is O.K. to some extent…"*

The Managing Director of STPSoft took charge of improving their effectiveness, especially through specialisation in certain technology areas. In the FPP business model, the sales and profit margins are highly dependent on the efficiency of the software developers. It all comes to the point of whether the BD Manager and Sales Manager have up-to-date information on the rates of their developers and the overall market prices, and whether they can utilise the information in selling their services.

According to both the GM and the MD, specialisation is **the** key to success: "…select five top customers, core technologies and grow up in the supply chain doing the things others cannot". As discussions about specialisation to particular sectors have revolved, the Sales Manager has expressed the following view:

> *"But the challenge is that the business is so vastly fluctuating that long-term planning is very difficult to make. Here we can only name some preferential sectors… Our written goal is to be the number one Russian offshore software development player in Finland and Scandinavia. For us this means on the other hand widening the spectre of our clients, and on the other: getting deeper to the customers. Otherwise we cannot climb the value-chain and when we are competing with price, there is always somebody who sells their work cheaper."*

Finding a niche and meanwhile expanding the customer base is a challenge. However, the regional concentration to Scandinavia creates borders within which strategic planning can be carried out more intently.

## 6.3. Geographical Concentration

STPSoft got their first Scandinavian customer in the middle of the 1990s due to the GM's active participation in IT events and his good PR-skills. After that, STPSoft has increased their efforts in Scandinavia, and eventually they established SaintP Software in 2002, first with one person, the current Financial Manager. The Financial Manager was at the time

responsible for almost everything, before the Sales Manager, a Finn, was hired in 2004. This was partly a result of the Financial Manager's experiences in local business, which supported the recruitment of a native to take care of project negotiations.

The STPSoft GM considers that they are unique in their geographical focus:

> *"We do not only focus on technologies vertically, but we also have this strategic strong country focus, geographical focus. I haven't heard of any competition in this area, nobody claims "I am in a specific country"… everybody is trying to get a piece of every pie. And we claim that we are going to diminish our activities in other countries and focus more on Scandinavia."*

Other Russian or foreign software outsourcing companies tend to, more or less, neglect Scandinavian markets. After all, they are "a drop in an ocean" in terms of size, which makes most Russians to look directly overseas to the USA.

The concentration to Scandinavia has been explained by the management team with the following arguments:

> *"Proximity to Scandinavia"*
>
> *"I suppose that affordability was also in mind in making this decision"*
>
> *"The practice that was developed at STPSoft to work and understand the needs of Scandinavian customers. So it was based mostly on experience…."*

Understanding the customers, which also facilitates communication with them and promotes trust, increases the stability of the business. Additionally, the Administrative Manager considers Finns as very reliable payers. GM continues on the topic:

> *"[Due to foreign competition] We moved to the area, where we have less competition, where we don't need that many people. So, these areas are (not coding, because everyone can code) software design, architecture and business consulting.. But to do that, we need to get closer to our customers. This is why we established our Finnish office and hired Finnish people. We have been investing money into that. Similarly, as we are gaining visibility etc, we are feeling that markets are warming up."*

Investments to Finland have not been large, in absolute terms. But as the company's assets are mostly on intellectual capital, the Finnish salaries have a large share and incline the whole organisation to this direction.

> *"Why SaintP Soft is in Finland like it is, is partly due to the determination to succeed so well that more than our own resources are needed. They [STPSoft executive management] have come against a glass ceiling and they have been forced to start*

*thinking what they need to do with their business in order not to be drifting to a phase of stagnation or not remain in that phase. Surely then many alternative means to do that have been evaluated."*

Some initial ideas have been tossed around in the management team about developing their front-end in Finland. Some have suggested product development activities in Finland, while some want to take on more people to serve their customers better. Whatever the situation will be, additional resources are needed for growth.

## 6.4. Viability of Current Focus

In order to understand the viability of the operational model and the geographical scope chosen in STPSoft better, some experts of Finnish software industry were contacted. They were asked about the special characteristics of Finnish clients, their preferences related to the models of outsourcing (ODC and FPP), and the possibilities for advancing in the value chain.

A majority of Finnish IT companies are still small and their processes are not well developed. Also the ability of writing clear specifications is often underdeveloped. These factors hinder them from establishing relations with foreign outsourcing firms. Large firms, for their part, have better defined processes and thus preconditions for outsourcing. In addition, these firms are pressed into expansion by cost efficiency strains. The bigger the company, the more it is interested in long-term relationships and ensuring the level of quality. Smaller firms tend to do things more ad hoc.

Also the good condition of the provider's processes is often a prerequisite for getting a contract, as the client wants to know how the project would be followed through. Thus attracting new clients is easier for firms with already established positions than newcomers. Russian outsourcing firms have shown good ability to carry out projects for clients with previous outsourcing experience. There have been occasional problems with project management, but that is a question of learning, and the personnel in these firms are quick to learn. It has been noticed that the conception of quality is rather good in the best Russian firms and the processes are functional. What might be obstructive is the general development of the firm, as the practices and processes of management might be less developed.

Outsourcing would be easier if there was an external evaluator, who would determine whether the project achieved its goals and everything was delivered according to the contract. This could lower the perception of risk in firms weighing up an outsourcing decision. Also the protection of intellectual property rights is important to the clients.

It is a natural continuum to try outsourcing with a small project before moving into ODC. The benefit of ODC is continuity, retaining the same employees over a longer time and having a

higher degree of control than in projects. When there is enough volume in the operations, even establishing an own offshore office can become an alternative.

The desired degree of the provider's specialisation depends on the client company, e.g. whether the client company itself has a narrow or broad focus. Here one determining factor is the client's degree of internationalisation, as firms operating on international market tend to have a more clear focus than those operating solely on the domestic market. Another issue is the duration of the relationship, in a long-term partnership the client may require the provider to have a broader set of competences, whereas a single project may be done within narrow specialisation. The roundup is that there exists a clientele for both approaches, specialised and more general.

The specialised approach, however, is perhaps perceived more credible by the clientele, as it shows that the firm is devoted to a certain competence and investing in it, instead of being a universal genius. One solution is choosing the specialisation according to some target group within the IT industry as there are many different types of actors with different needs and requirements. Another ground for specialisation is platform-specific knowledge.

International competition is getting tougher all the time and there are many players on the Scandinavian outsourcing market. For example, Indian companies have intensified their presence in Finland in the last couple of years. However, because of their size and experience, large Indian firms are in different calibre with Russians. Instead of being possible subcontractors, Finnish companies may see Indians as competitors. Getting to this position has taken Indian IT firms a decade. The Russian industry, on its part, is comparable to India six years ago. For Russian firms to become global players, growth and changes in operational processes are needed. In order to successfully operate in several markets, a firm has to be of a certain size and have enough capacity to handle the generated volume.

The decision criteria for where to outsource are firm-specific. One of Russia's advantages is its near location, and there undoubtedly exists potential for more cooperation between Finland and Russia. However, there is a lot of work to be done in order to be competitive. Outsourcing firms have to develop and maintain their specific competences. They need to rapidly adjust their business and benchmark operations of foreign companies and domestic industry leaders. Clients make demands on quality, schedules and reporting, and thus project management skills and control mechanisms have to be developed to the appropriate level. A low price is only one factor in decision-making. If outsourcing is used in development activities, there are other more decisive matters, such as timing and quality.

Rising up in the value chain can only happen in a stepwise manner. Russian outsourcing firms have little knowledge of the business and industry domains of western clients, so it is hard for

them to become consultants. It is not impossible, but takes both time and effort. Developing products of their own and selling them to the western market is also difficult. Even big Russian firms have had problems in establishing a foothold in foreign markets.

# 7. STPSoft Finances

As STPSoft has discussed various options for further development of their business, they have also had to analyse their financial capabilities and potential alternatives for receiving additional financing to realise these development activities.

## 7.1. Current Financial Situation

STPSoft is a family business. The term "family business" is widely used in Western practice but is not yet so common in Russia. However, according to some estimation, family companies in Russia account for 70 % of the total number of Russian small and medium-sized enterprises (SMEs), and they have some specific characteristics.

As most Russian family companies, STPSoft was founded in the first half of 1990s on the wave of governmental structure crisis and large-scale switchover of public sector employees to private companies. The key positions and thus the main responsibilities were distributed among family members and friends – the fact that to a large extent determined the company management system and reporting.

At the same time, STPSoft represents the phenomenon of "born global". The company's main activity is of international nature. From the very beginning the company has been dealing with foreign partners. Therefore, unlike the typical Russian family company, STPSoft has a transparent organizational structure, strategic planning experience, and the whole business is built in accordance with western principles.

Because of the specificity of the software outsourcing activity, the establishment of the company did not require significant initial investments. As Anatoliy Karachinskiy, the president of the IBS Group, noted in an interview: "Offshore software development is one of the rare IT-businesses, which can start its development almost from zero and then gradually, without external financing, increase its weight" (Ibusiness.ru).

Still, the growth path of STPSoft has not been smooth and simple. The company operates in the turbulent environment of Russian economy. Since its establishment, STPSoft has suffered several financial disturbances, including the severe financial crisis in 1998 and the ensuing bankruptcies of financial institutions, in which the company had deposited its savings.

Besides, in the years when the company started its operations, the legislation regulating SMEs' activities was unclear and frequently changing in Russia. Moreover, there was an obvious lack of proper legislation concerning IT activities as a whole, and especially export operations. The top management of the company, particularly Chief Accountant, had to adjust

to these changes – to study and implement the new rules simultaneously with bank officials serving export operations and representatives of controlling agencies.

Despite the setbacks, STPSoft has managed to both overcome the difficulties and continue successful operations. Today, STPSoft is a growing, profitable company with the main focus on offshore software development. Almost 100 % of its services are exported abroad. The main clients are from the Scandinavian countries and the USA.

STPSoft's main revenues come from its operational activities. These activities can be divided into two groups: ODCs (offshore development centres) and FPPs (fixed price projects). In the ODC model the price of a service is built on the person-days basis. The client dictates the number and qualification of employees involved in the project development. In the FPP model client pays for the project implementation. The FPP model implementation has time limits set by the customer, but the personnel decisions are made by STPSoft. Both models contribute equally to the company's revenues.

According to VDI[6] estimations, the company has considerably lower risks and its value is higher when the share of one customer in the overall turnover of the company does not exceed 10-15 %. In STPSoft this indicator is about 15 %.

The company is determined to deposit a major part of its profits to ensure a sufficient amount of working capital. This guarantees a certain level of stability. The growth rate of income exceeds the growth rate of expenses, which proves the efficiency of the company's activities (see Figure 10). In 2003 STPSoft's turnover growth rate reached 23 % and matched the market average of 25 %.

[6] VDI (Vested Development) - Russian software development company. Annual turnover - USD 5.7 million. Number of employees – 190 persons.

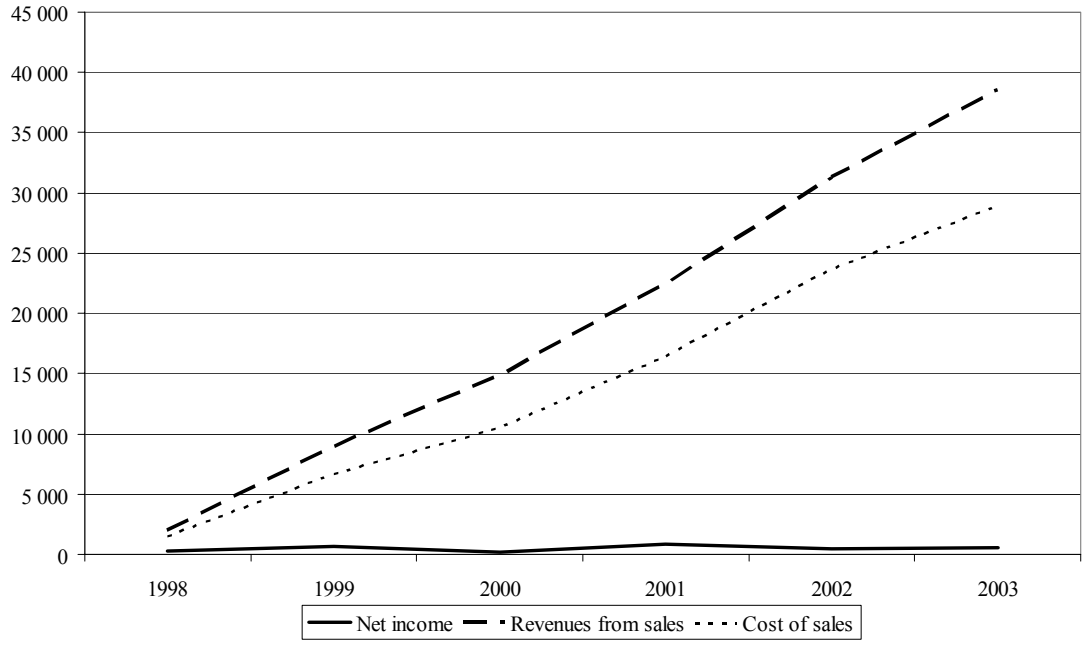


**Figure 10. Revenues, costs and net income of the company, thousands RUR**

During the last 5 years, there has been a constant increase in the company's assets, and therefore the solvency of STPSoft has been improving. Meanwhile, the structure of assets is such that hardware equates the main share. The company has a positive net cash flow and possesses sufficient funds on its accounts. Today STPSoft operates without involvement of external finances.

Considering the fact that competition in software outsourcing is increasing persistently, in Western practice the acceptable level of profitability comes to 10-20 %. The situation in Russia is quite similar. As market participants estimate, the direct costs of an average Russian software outsourcing company amount to 30-55 % of sales; overhead expenses constitute 40-60 % of sales. Therefore, the average level of profitability is about 15-30 %. At that, the minimum level of profitability necessary for effective reinvestment averages 8-10 %. Some companies manage to reach the annual profitability level of 30-40 %. At the same time separate projects can have even a higher level of profitability. The main ratios reflecting the profitability of STPSoft are presented in Table 6.

**Table 6: The profitability analysis ratios of STPSoft activity according to GAAP**

| **Ratios** | | **1998** | **1999** | **2000** | **2001** | **2002** | **2003** |
|---|---|---|---|---|---|---|---|
| Return on Assets | ROA | 31 % | 44 % | 7 % | 21 % | 8 % | 8 % |
| Return on Equity | ROE | 80 % | 69 % | 16 % | 44 % | 20 % | 20 % |
| Profit Margin | PM | 12 % | 7 % | 1 % | 4 % | 1 % | 1 % |

As seen in Table 6, the company has a sufficient level of profitability, which allows it to invest in development. The most important ratio that reflects the effectiveness of investments (ROE) is on a good level, 20 %. At the same time this indicator seems to be marginally profitable and highly levered. Thus, if the firm's margins were to erode slightly, the ROE would be heavily impacted.

The company is quite sensitive to changes in market demand and other factors of financial and business activity. Besides, it is widely accepted that only the largest Russian IT companies with optimised internal management structure are able to reinvest profit into new long-term projects. In most cases "internal investments" allow the company to support certain dynamics of growth and not more (Crn.ru).

To resume, finance is not a major problem for STPSoft, unless it decides to expend rapidly or expand overseas. If the company were planning to take extensive measures, for example to move up in the value chain, it would very likely require external financing.

## 7.2. STPSoft External Financing Opportunities

Considering the potential sources of external financing for STPSoft, three main factors should be taken into account:

- STPSoft is a *Russian* company (country aspect)
- STPSoft is a *small* Russian company (size aspect)
- STPSoft is a small Russian *offshore software development* company (branch aspect)

### 7.2.1. Country Aspect

The investment attractiveness of any company in any branch of the economy depends to a considerable extent on the overall investment attractiveness of the country.

There are a number of factors working in Russia's favour. The main one is delayed reaction to the undoubted improvement in the business environment in recent years, the sense of greater political stability after the chaotic Yeltsin years, as well as the robust and ongoing economic recovery. Such delayed reactions are not unusual. Bankers and portfolio investors usually lead the way, with the more cautious strategic investors following (Economist Intelligence Unit 2004).

Certain problems hindering the improvement of the investment climate remain in Russia still. The current legislation is not effective in promoting the investment inflow. Guarantees of the security of property rights and investment repatriation are doubtful. High risks not only scare most of the foreign investors, but also push Russian businessmen to export their capital. The

"national specificity", namely bureaucracy, corruption, unclear "rules of the game", should also be mentioned.

More recent trends signalling deterioration in Russia's investment climate, which might be expected to deter investment, include the increased risk of terrorism, a cooling in political relations with the west, the slowdown in structural reforms, and the intensifying trend towards political and economical authoritarianism (Economist Intelligence Unit 2004).

### 7.2.2. Size Aspect

Despite the significant improvement of the main macroeconomic indicators, the small business sector is still underdeveloped in Russia[7]. There are numerous factors affecting the performance of SMEs in Russia: insufficient legal framework, bureaucracy and corruption, soft budget constraints, difficulties in dealing with criminal organizations, inadequate infrastructure, uncertain enforcement of business contracts and property rights, often referred to as the quality of the "business environment" (Carlin et al. 2001).

However, limited access to external financing is generally considered to be the main impediment for the growth and development of SMEs in Russia, though the obstacles listed above are interrelated. Russian SMEs are often seriously weak in managerial quality, operational experience and other resources. In addition, the operational history of SMEs is hard to monitor, which means that potential lenders or investors are somewhat sceptical about investing their funds in small and medium business in Russia.

In conditions of scarce internal funds, *debt financing* can be considered as one of the options. However, the financial market is still in the process of formation in Russia and the legislation in this field is far from perfection. At that, in terms of volume of assets, banks are far more developed in Russia than non-bank financial institutions.

According to expert opinion[8], bank officials are positive enough concerning SME crediting, but the possibility to obtain credit for SMEs is strongly connected with collateral. The most preferable forms of collateral are material assets and real estate, but very often Russian SMEs do not possess enough assets to serve as adequate security. This is especially true for IT service companies, whose main assets are people. Besides, Russian banks currently experience a lack of long-term resources. Most of the credits offered to small business are for less than one year, and which cannot satisfy the needs of SMEs. In these circumstances, it

[7] The share of small business in GDP (gross domestic product) of Russia is still under 10%. The number of SMEs per 1000 inhabitants in Russia is 10-14 times less than in European Union countries

[8] Рабочий Центр Экономических Реформ – Либеральная Инициатива, Россия (Working Center for Economic Reforms – Liberal Initiative, Russia)

seems that equity capital is a more appropriate form of finance for SME development in Russia than debt.

### 7.2.3. Branch Aspect

It is usually considered that in investing money in Russian companies, the investors bring also more developed technologies and management methods, which should implicitly foster the development of the Russian IT-market. But how attractive for direct investment is the IT industry itself?

Unfortunately, the world community does not associate Russia with high technology. The leading decision-makers of Russia have recently been talking about the necessity of structural transformations in the economy, and about the development of high-tech industries. Yet almost nothing has been done by the government even to create a positive image of the Russian IT industry. Not all the blame should be put on government, however. There is no consolidation in the IT sector. Potential investors do not see enough big players, engines of IT industry development.

Investors prefer to invest in those sectors which provide maximum return in a short-term perspective. At the same time, many Russian IT companies work in conditions of high uncertainty. Long-term IT projects, whose profitability is difficult to estimate in advance, are unlikely interesting for most of the potential investors. Besides, the majority of Russian IT companies' top managers are at the same time the owners of these companies. They are not accustomed to the idea of co-operation and thus are not ready to share their business with someone else.

When scrutinizing the current situation in the Russian IT industry, the internationally oriented companies appear to be the most attractive for investment, at least for the near future. Currently, there is limited demand on the domestic market. There is a lack of clients that could afford IT solutions in Russia – a few hundred in the whole country. The majority of large-scale projects is divided between large IT companies and it is difficult for small teams to enter this market.

There are currently two main business models for international operations in the IT industry: offshore software development (so called Indian model) and software product development (Israeli model).

Offshore software development is generally considered to be a quite simple business[9], where the main task is to provide software developers with orders. From this point of view the potential *strategic investors* in offshore software development business in Russia could be:

- Large system integrators and industrial holdings, aiming to create teams for work with foreign orders;
- Private investors, considering offshore software development to be a rather profitable business.

Venture capital is another possible financing source which can be obtained for the long term. The nature of the venture business is that the investors are willing to accept high risk in order to receive high profits. A typical venture capital fund invests only some 2 % of its total investment portfolio in one company.

However, for *venture investors* the offshore software development model is not very attractive. The main reason is that offshore software development units are not companies, but teams of developers, able to perform a task of certain complexity on a certain level of quality. It is always difficult to capitalize teams, no matter how large or small they are. If one or several developers leave it, the company will lose its value significantly.

Intangible assets, such as corporative know-how, brand, and intellectual property, which could add to a company's value, are rarely created in this kind of business. To attract financial investors offshore software development companies should build up very large and stable business as, for example, Indian Infosys or Tata[10] (Ibusiness.ru).

Being interested in fast growing business, based not on skills of certain people, but on innovations, venture investors would rather invest in companies involved in the creation of finished products and solutions and their introduction on foreign markets (software product development).

To sum up, there are two main groups of investors interested in Russian IT companies working for foreign markets. Thus two investment models – strategic and venture – are available. In the s*trategic model* IT or industrial companies invest in the development of their own business at the expense of software outsourcing. In the *venture model* the investor aims to fix his share in new technology, and therefore the prospects of this technology on international markets are the crucial factor for the investment decision.

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[9] It should be noted, however, that starting offshore software development business is not a cheap endeavour. According to some estimation, the creation of a good team of 100 qualified software developers costs approximately USD 1 million

[10] Infosys and Tata are leading Indian software development companies

Some other financial possibilities could be also considered, but it seems that Russian IT industry lacks either large or medium-sized companies that are interested or able to grow by making acquisitions of smaller firms.

# 8. Discussion

The management team, after having a long meeting on the current topics in the company's operations concerning their business model, competitive environment, target markets and their financial alternatives came up with a number of open-ended questions.

*Competitive Environment*

How will the entry of Moscow and foreign software development companies to St. Petersburg affect local software businesses? Is it a threat or an opportunity?

Are our core competences sufficient to meet the competition alone? And if not, what are the most viable options?

Is the international competition from other offshore countries a threat? How do we stay competitive?

*Business model and target markets*

How are we going to improve our position in our customers' supply chains?

Should we be more specialised?

Is own product development a viable alternative? If yes, do we need supplementary resources for product development?

Would the widening of our geographical focus bring us more business?

*Financial needs*

Do we need venture capitalists or strategic investors to realise our goals?

What are the advantages and disadvantages of accepting outside investors?

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