

# *Global Software Development Study*

Summary of research findings prepared for

## RUSSIA



*Study led by*

**Professor Amrit Tiwana**

*Decision and Information Analysis*

**GOIZUETA BUSINESS SCHOOL**

**EMORY UNIVERSITY**

1300 Clifton Road, Atlanta Georgia, USA

Telephone +1-404-727-6378

Email [Amrit\\_Tiwana@bus.emory.edu](mailto:Amrit_Tiwana@bus.emory.edu)

**Background** Approximately 250 leading software development firms based in Russia, Ireland, and India participated in this study. Most of these companies actively operate in the US markets. The recommendations and analysis was specifically targeted at this market.

*Analysis team for your company*

Art Medhapipatkul

Daniel Ebert

Julian Zhu

Mariana Pinango

Yee Kwan Tang

*Other analysis team members*

**Ireland analysts**

Joey Annan

David Cannon

Rene Kwame

Valentina Pippolo

Puneet Sawhney

Michael Yu

**India analysts**

Peter Ernst

Jennifer Jenkins

Nicholas Rhodes

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## 1. Background Information

In the pursuit of our objectives to assess the Knowledge Management practices of a specific set of IT development firms, we shall begin by considering the general characteristics of the industry. Following this, we will describe the situation of the Russian firms on a general basis and use this to identify their competitive strengths and weaknesses, and carry out performance comparisons with similar firms that are part of a different cluster.

### The software offshore market

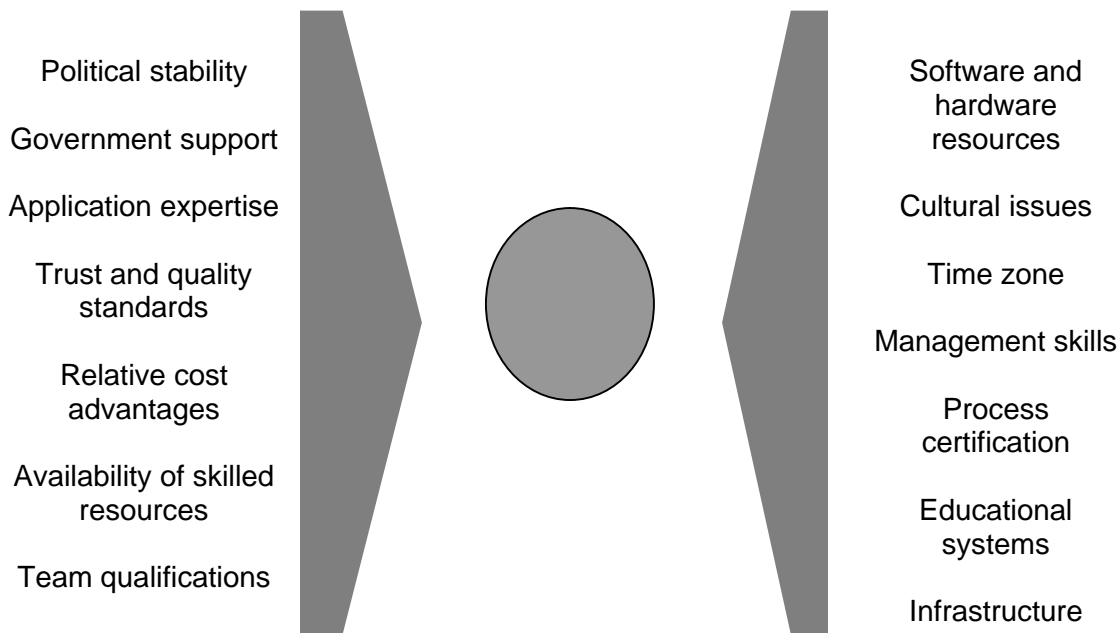
- The market is growing in the shape of growing demand.
- There is a steady stream of new entrants in the IT development market.
- Costs saving issues have become an imperative within European and American firms.
- Offshore services are becoming increasingly sophisticated.
- Providers are selected mainly on the basis of cost savings, time to market, skills shortages, and quality.
- Offshore companies are aware of the market potential and of their competitors and therefore are working hard to improve their own skills. (Provider's are increasingly of high-level quality.)
- The US is the largest market, followed by fast-growing Europe (less mature).
- The most mature offshore services market comes from India.

According to Gartner, as expressed in their Software Outsourcing Summit at Saint Petersburg in June 2002, it is recommended to go offshore when the subject matter is

➤ Tactical	➤ Non-core
➤ High volume-low value	➤ Legacy maintenance
➤ High cost	➤ Re-focus internal skills
➤ Access to new skills	➤ Convert fixed into variable costs

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## IT developer selection criteria in the offshore market



## Russian IT market

The Russian IT developer market is a relatively young one. IT firms have just recently begun to tap the vastly skilled workforce to exploit this market's potential. There has been growing support from the Russian government, although it is just recent, whereas the Irish and Indian government have fostered the development of this market in both countries for some time now.

Years of scientific efforts from Russian institutions during the Cold War period have left an immense pool of knowledge related to the development of space programs and nuclear weaponry. Because of this, it is recognized that Russian scientists have the ability to handle complex problems of different nature at the same time: problems related to biology, mathematics and physics, for instance. It is said that Russians are innately risk-averse, but also that they are socially and culturally predisposed to overcoming obstacles in order to achieve their objectives.

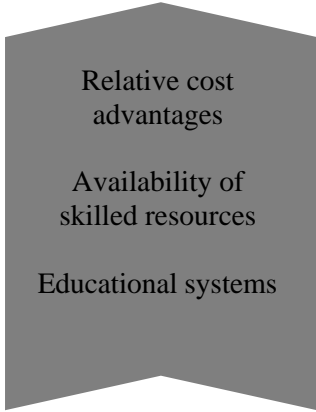
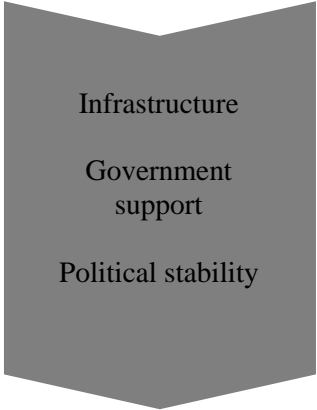
Although these resources have no longer a place in the new Russian economy, all this knowledge can now be driven into new economic opportunities: IT development is one of the most important.

The potential of Russian technological influence can be illustrated by the mass immigration of Russian scientists, mathematicians, physicists and engineers into Israel, educated at top Russian academic institutions. This contributed significantly to Israel's stock of technological human capital

Russian IT firms are typically pyramidal: there are still great power distances between the lower and the higher levels of the organization. It is acknowledged that in occasions Russian management lacks the appropriate skills necessary to build a competitive organizational structure and to handle their human resources in the best possible way. Furthermore, the Russian IT worker is one that is very passionate and disciplined and known problem-solvers, but at the same time, may require direct orders at times.

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## Main differentiators in the Russian market

Considering the aspects that should commonly be part of the decision process for firms seeking IT developers, Russia has a comparative advantage in the following according to Gartner.	On the other hand, compared to the main offshore IT providers (India and Ireland), Russia shows weaknesses regarding:
	

In pondering the selection criteria described above, Russia is ahead only of China, equal to Israel and South Africa, and behind India, Ireland and Northern Ireland, according to Gartner studies.

One important factor customers of Russian IT firms also want to consider is the fact that there are very few certifications related to software development because it is a relatively new need. In this aspect, India and Ireland are at an advantage, for they do have quality certifications that support their systems.

## Nature of partnering relationships

The figure under which US firms partner with Russian firms is that of offshore contracting. The reason that contracting is the preferred modality among US firms is because of the significantly lower costs of the Russian. However, ownership is not chosen due to the fact that there are several legal issues that make doing business in Russia less attractive.

Although there is a general proximity to the western Europe and the American culture, the Russian business culture and management style in some ways is still very different from the western culture.

In addition to that, the different languages make communication even more difficult. As all major offshore software development locales are English speaking, that might lead to complications concerning the exact product description which can lead to errors during the software development process. In some cases the language difference might also lead to a lacking “big picture” view of the Russian IT specialists who are known for their excellent education and for their ability to solve complex problems. All this excellent specific knowledge is useless if the companies products do not meet the customers’ demands. If

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developers can not directly talk to the customers to figure out their demands but will always need somebody to translate, meeting the customers demands will become even more difficult.

Besides, the enormous distance especially to the USA where the main market for the Russian companies is located, makes face to face communication and direct interaction even harder.

Because of not very well developed quality standards and the differences in the business culture and the language, the customers that work with the Russian companies normally send their managers to the Russian companies to control if the companies demands are met and to coordinate the workforce. These managers normally have experiences as to the Russian language and culture.

## Competitive strengths

### In acquiring knowledge...

- *Russian firms continue to rely on the influx of highly skilled graduates to be inserted in the market.* Due to the ample existence of untapped talent, IT development firms have a great array of human capital available, which makes the selection of the best candidates for the job a relatively easy task.

### In sharing knowledge...

- *Russian scientists' mindset.* Years of training in a highly disciplined environment, in the search for results to perfect outcomes for scientific projects, Russian scientists have learned to work as a highly motivated team, and in doing so, understand the need for open communication within their work teams to reach a common goal.

## Competitive Weaknesses

### In acquiring knowledge...

- *The "old-fashioned" Russian way of doing things may hinder the acceptance of new needed trends in the market.* Years of development of technology for a cold-war competition may have created a mindset much too focused on discipline and rigidity. In the present day context, flexibility may be even more necessary and difficult for the Russians to practice.

### In sharing knowledge...

- *Language barriers pose a threat in the exchange of knowledge between the Russian firm and its U.S. counterpart.* Differences in language produce foreseeable difficulties in communications with customers from the U.S., hindering knowledge sharing between the firms that could enrich the relationship and produce better project outcomes.
- *Gains in technical knowledge may have priority over general management issues.* The weakness posed by language barriers often results in the dependence on project managers that are not as well experienced as they should be, only because they do speak English. This produces an

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inevitable emphasis on the technical matters of a given project, and less on the management aspects also necessary for a successful relationship with the customer.

- *Mindset of Russian scientists may hamper knowledge sharing.* Because the vast majority of Russian IT developers are mainly mathematicians and scientists, as in the previous point, their focus might very well be much more on the technical issues, and customer needs in logistics, for instance, may be overlooked.

#### In using knowledge

- *Technical specific focus.* Russian IT firms may tend to grant more importance to technical issues rather than the final user-specific needs. This may result in an undesired outcome for both parties.
- *Difficulty to market.* As a result of the previous weakness, it could be common for the Russian firm to miss important user-related features of their product to make it more attractive for their customers, creating a disadvantage in marketing their product.

## 2. Data Analysis

### Summary of Findings

\*Relative comparison across clusters

Area	Russian Cluster	Ireland Cluster	India Cluster	Remarks for RUF
Quality of Project Outcome				
Client evaluation result (all aspects)	Worst	Medium	Best	<ul style="list-style-type: none"><li>Lowest mean in System Reliability</li><li>Highest mean in functionality</li></ul>
Budget Control	Worst	Medium	Best	<ul style="list-style-type: none"><li>19.64% overrun</li></ul>
Time Control	Medium	Worst	Best	<ul style="list-style-type: none"><li>16.26% overrun</li></ul>
Rework avoidance	Worst	Medium	Best	<ul style="list-style-type: none"><li>20% total hr</li></ul>
Degree of system insulation	Highest	Medium	Lowest	<ul style="list-style-type: none"><li>Relatively more independent and modular</li></ul>
Balance of Knowledge				
Degree of project specific technical knowledge distribution	Medium	Lowest	Highest	<ul style="list-style-type: none"><li>Perceived clients to have lower level</li></ul>
Degree of project related business knowledge distribution	Medium	Lowest	Highest	<ul style="list-style-type: none"><li>Perceived clients to have higher level</li></ul>
Degree of high level business knowledge distribution (high level)	Lowest	Highest	Medium	<ul style="list-style-type: none"><li>Perceived clients to have higher level</li></ul>
Working Relationship				
Perceived collaboration	Lowest	Highest	Medium	Relatively most distant working relationship and collaboration
Perceived working relationship	Lowest	Highest	Medium	
Frequency of interaction	Lowest	Medium	Highest	
Perceived Project Complexity				
Technical newness			Highest	In general, project are not perceived to be very complex and uncertain.
Process newness	Medium	Highest	Lowest	
Skills pershiability	Medium	Highest	Lowest	
Technology pershiability	Lowest	Highest	Medium	
Technical uncertainty	Medium	Lowest	Highest	
Project Management Practices				
Flexibility to change	Lowest	Highest	Medium	Overall relatively least flexible
Extent of the use of coordination tools	Medium	Lowest	Highest	

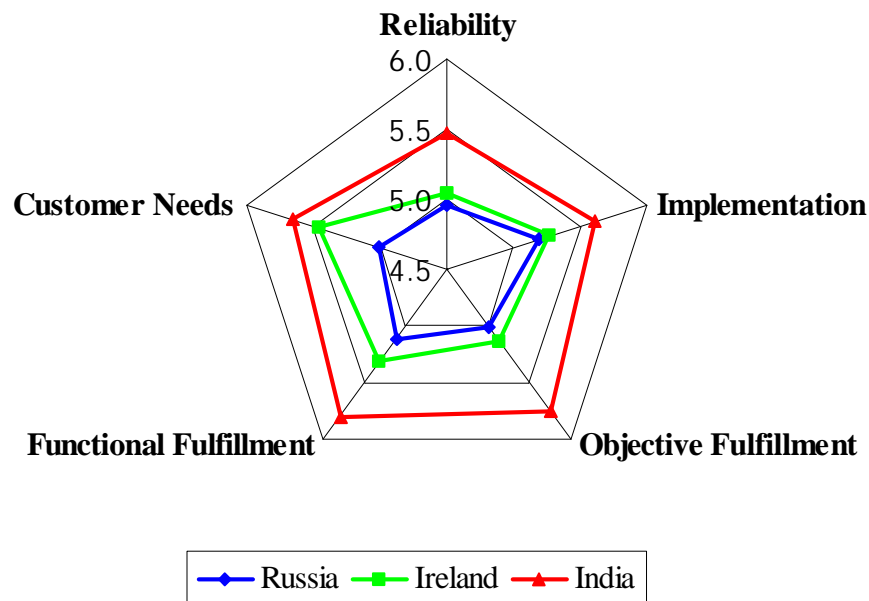


## How well is the project done?

### Client evaluation on Russian partners' project outcomes

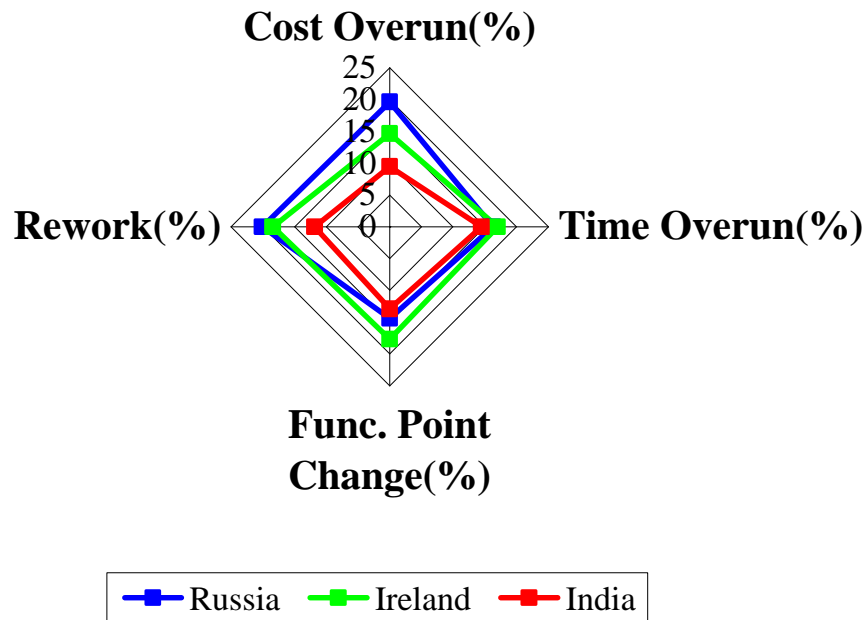
Based on the five criteria set out in the questionnaire – system reliability, implementation of functionality, meeting project objectives, meeting functional requirements and overall fit with customer needs, clients gave **4-5 rating (that is between average and above average) to the project outcomes** in comparison to other IT projects of the clients. Among the 3 clusters including also Ireland and India, the general client evaluation rating of **Russian partners is the lowest**.

Although Russia has long been well known for its strong technical skill, this advantage seems to be helpless in total project evaluation from the eyes of customers. Generally, the evaluation scores of the Russia are above average comparatively to other projects that the clients have done. However, benchmarking will give the clear picture how well Russia firm performs comparatively to its peers. Customers rated the Russia in system reliability of the project lower than its competitors, Ireland and India, 1.66% and 10.19% respectively. For implementation, Russia has the score slightly lower than that of Ireland 1.75% but much lower than that of India about 8.34%. For project objective fulfillment, Russia again has 2.51% and 14.80% far behind Ireland and India respectively. For meeting functional requirements, Russia's performance is 3.76% and 13.40% lower than Ireland and India orderly. In overall project evaluation, Russia significantly under performs its peers for 8.73% and 12.81%.



### Project effectiveness and efficiency evaluation

Based on the data obtained, **project effectiveness and efficiency of Russian partners is not satisfactory at all**. In terms of time and cost, Russian partners' projects have an average **time overrun of about 20%**, more than 2x that of Indian partners'; and have an average **budget overrun of about 16%**. The **% of rework hour to total project hour is also about 20%**, again nearly double that of Indian partners'.

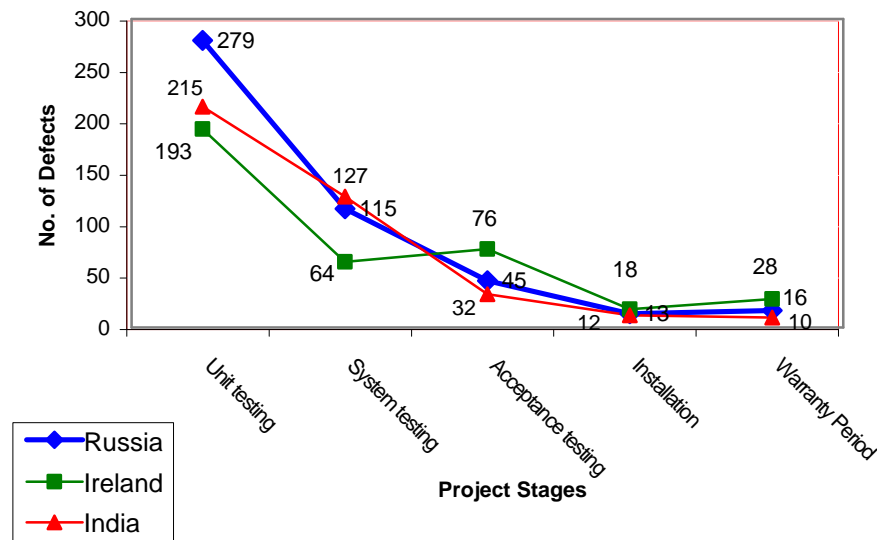


Considering other available statistical data, Russia has a huge gap of range and highest standard deviation and variance in cost overrun. Its range can be varied from 0 to 110% with standard deviation and variance 23.60% and 557 respectively. At the same time, the best of breed, India, has the data varying only 29.97% with standard deviation and variance 9.7% and 94.14 orderly. This result can be interpreted in the efficiency of budget estimation and cost management. Contracting project with Russia tends to be more risky in aspects of chance and intensity of budget overrun than the others.

Again for time overrun, the range of Russia, 110, is nearly twice of Ireland, 60. Although the standard deviation and variance of those two are slightly differed, taking project with Russia seems to have high variation in project management than Ireland.

**Considerable number of defects is found in the earliest stages before acceptance test.** The highest defective rate occurred in the unit testing stage, nearly double that of Indian partners' and one-fourth that of Ireland's. Defective rate, however, dropped significantly from the acceptance test stage onwards but the numbers are still not as impressive as that of Indian partners'. Although it is agreed that the earlier defects are found in the earliest project stages, the less costly and the more flexible is to make the correction and the less impact they are on the final output. The significant number of defects at the very start still projects some kind of negative impression and affects client confidence.

### Defects at different project stage



#### What do the evaluation results tell us?

Although it is commonly recognized that Russian IT service professionals have very high technical skills and wide technical knowledge, evaluation result shows that **technical competence alone does not create the distinctive advantage** for Russian partners to produce better output or achieve higher effectiveness and efficiency comparing to their counterparts in other two clusters. If technical competence doesn't apparently make a difference in this case, what do?

All system development projects begin with a need from a client to solve a specific business problem (or in another words to serve a business purpose). The ultimate objective is to ensure the project output matches this need. A key to a good match depends on how effective, complete and accurate information and knowledge from each side are communicated, combined and transformed: from needs to workable user requirements, from user requirements to technical specification, from technical specification to tangible system. **The whole project process, therefore, is a continuous interactive process that involves dynamic knowledge acquisition, sharing and utilization of both the client and its partner.** Since knowledge management (KM) practices play important role throughout the project process to ensure the achievement of the match, factors influencing KM practices are determinants to quality of project outcome.

#### What do the research data tell us about factors influencing Russian partners' KM practices?

##### Balance of Knowledge

##### Why it is important?

The development of a system requires two major classes of knowledge: business knowledge and technical knowledge. To develop a 'good' system requires the right combination of these two classes of knowledge so that it is not only technically functioning and efficient, but it is applicable and valid to serve the particular business purpose.

### What do data tell about Russian partners about this?

Research data tell us that Russian partners perceive their **clients to have lower technical knowledge than themselves**, especially when it comes to specialize knowledge such as detailed technical design, programming language and system development methodology. Both the Ireland partners and Indian partners share similar perception. **The gap perceived by Russian partners on technical knowledge with their clients, however, is wider than that of Indian's but narrower than that of Ireland's.**

As for business knowledge, it can be further broken down into project-related business knowledge and high level business knowledge. Russian partners perceive their **clients have higher level of project-related business knowledge** than themselves. The gap perceived is wider than that of Indian's but narrower than that of Ireland's. As for high-level business knowledge, Russian partners perceive the widest gap between themselves and the clients than that of both Indian's and Ireland's.

### What may the results imply?

It seems normal to find that clients have a higher level of business knowledge than partner because it is their business, very obvious! And partners have a higher level of technical knowledge in developing the system because it is the reason they can get the contract, also obvious! But because satisfactory project outcome requires a match of these two classes of knowledge, the knowledge gap between the clients and partners does matter.

Since clients have lower technical knowledge than partners, there may arise the problem that they cannot fully understand the technical specification prepared by the partners to make judgment on whether it is applicable to specific environment of the company (applicability), whether it is compatible with other related system (compatibility), whether there is more suitable technology (suitability), whether there is any defects related to the design (validity), etc. etc. They depend and rely totally on their partners' technical competency and make believe that they can find them the best solution.

At the other side, although Russian partners have high technical competency, they need certain business and operations knowledge to develop a system that can actually serve the business purpose. The knowledge gap between themselves and their clients may imply that they may not have all the necessary business and operations knowledge to understand and transform clients' requirements into a system that is not simply technically functionally, but applicable and valid to meet the clients' specific business and operations needs.

**Ensuring both sides to have right equilibrium of technical and business knowledge** is required to achieve effective knowledge sharing to produce satisfactory outcome. **Despite the primary role as technical expertise, Russian partners need to know the business as well!**

There are, however, three major barriers hinder the achievement of the right equilibrium.

1. *Don't think it's important to know* (for clients to know technical and for partners to know business and operations). The above already stresses that it is important to producing a workable and valid outcome.
2. *Don't know what should know.*

Two questions should be attended accordingly. They are: **'What business and operations knowledge do Russian partners need to know?'** and **'How much do Russian partners need to know?'** If Russian partners acquire business and operations knowledge that are not relevant or are too much for enough, there is waste of efforts and resources, and may also distract the focus of the system. If they acquire too little than enough, the validity problem mentioned above arises.

3. *Don't think the other party should know (especially for clients to let partners know their specific business and operations knowledge)*

This is mainly a psychological barrier that relates to trust and commitment to the other side. The breakdown of this barrier depends on constructive working relationship, which the research data shows some findings.

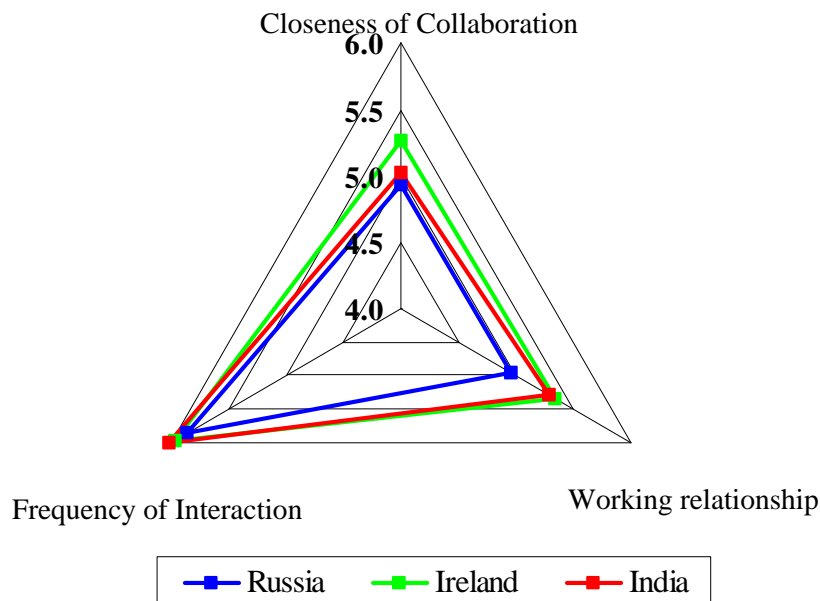
## Working Relationship

### Why is it important?

Working relationship directly determines the commitment and involvement of each side in knowledge sharing so that accurate, complete and up-to-dated knowledge is shared at the right time with the right person to do a right job without having to worry about whether the knowledge will be used otherwise to harm its own good. This can be a big concern to clients when they transfer their business and operations knowledge to partners. A close working relationship also ensures synchronization of understanding of requirements and progress throughout the project stages, so that both sides are flexible to changes without disrupting the efficiency and effectiveness of the project.

### What do the data tell about Russian partners about this?

Majority of the Russian partners in the research are **repeated partners of the clients** rather than the first time. The ratio is slightly higher than that of Ireland and India. For those repeated partners, the **average year of interaction with the clients is about 4 years**, which is the longer across the three clusters, almost 2 years than that of Indian cluster. Despite the longer year of interaction with the clients, the **perceived closeness of working relationship between partners and clients in the Russian cluster is the lowest** among the three, with Indian cluster the highest. **Russian cluster also has the lowest rating in the closeness of collaboration** than that of Ireland and Indian, which is the highest again. The average frequency of interaction between Russian partners and clients is near twice a week, pretty similar to that of Ireland and Indian. The average number of client staff that Russian partners interacted with is 5, the lowest in the 3 clusters comparing to Ireland's 8 and Indian's 6.



### What may the results imply?

Data shows that Russian partners tend to have a relatively more distant working relationship and collaboration with their clients than the other clusters. Such a phenomenon may have certain underlying reasons.

#### 1. Show of trust from client

Interpreting in the client position, the distant working relationship and collaboration may be built on a **high level of trust** to the competency of the partners, who are therefore given **high degree of**

**autonomy** to do the project without imposing a closer collaboration and working relationship like an internal work team. If the partners are really competent and have equipped with optimum knowledge, this may maximize the benefits of outsourcing in resource leveraging.

### *2. Independent working practice of the partners*

The high technical competence may have the Russian partners think that they are capable to handle the job once the clients handed over the project with requirements, and it is **not necessary to get closer working relationship and collaboration** during process with clients unless on certain stages that must involve user interaction.

### *3. Organizational arrangement*

It is typical for Russian IT service firms to have brokers (middlemen) who get the projects from the clients and then manage the projects in Russia. There is **limited contact between the Russian developers with the actual clients but the brokers**, thus, make it unlikely for Russian firms to develop a closer working relationship and collaboration with the actual clients.

Quality working relationship allows effective knowledge sharing and collaboration to produce output that better matches the need. So-called 'quality' refers to a right distance, not necessary the closer the better. If we refer back to the evaluation of the project outcome that shows Indian cluster has the relatively best results who happens to have the closer working relationship and collaboration with their clients; while Russian cluster has the least satisfactory results who has the more distant working relationship and collaboration with their clients, closer working relationship and collaboration seems to be appropriate in this kind of project. Further researches, however, are needed to provide stronger support to this notion. But this give rise to another factor that may affect the KM practices, that is the project characteristics.

## **Project Characteristics**

### **Why is it important?**

Project characteristics that take into account the level of uncertainty, stability, complexity and newness determines the level of knowledge acquisition and sharing required between involved parties in terms of depth, breadth as well as frequency.

### **What do the data tell about the characteristics of the Russian cluster's projects?**

Research shows that majority of Russian partners perceived their project to be quite stable in underlying skills as well as technology requirements. The level of technical uncertainty is also perceived to be low. Although majority of Russian partners described the projects as a completely new design, they can base on a concept already been demonstrated in another project. As for development process, majority of them found they need major modification to existing methodology and development tools. In sum, **the perceived project complexity by Russian partners is not high.**

### **What may the results imply?**

Results of Russian partners' perception on project complexity may interpret in two ways:

1. Russian partners have relatively higher level of technical skills and technology and have handled higher-level projects before, even though complexity of the projects across three clusters may be the same, they see the projects less complex than do their counterparts in Ireland and India.
2. The projects are actually less complex in the Russian cluster.

No matter which of these cases is true, the perceived low complexity of project may explain relatively lower need for Russian partners to acquire new knowledge and to actively involve in knowledge sharing with clients, thus, results in a more distant working relationship and collaboration as been mentioned in preceding section.

## Project Management (PM) Practices and Capabilities

### Why is it important?

Project management practices and capabilities, covering the management of the project process, the use of development methodology and tools, and the leveraging of project resources, determines how flexible the partners is to changes and how well they utilize the knowledge to achieve project objectives efficiently and effectively despite the dynamic nature of the projects.

### What do the data tell us about Russian partners' PM practices and capabilities?

Research data shows that the average Capability Maturity Model (CMM) level of Russian partners is 2, that means in the repeatable level in which project management processes are established to track cost, schedule, and functionality, and the necessary process discipline is in place to repeat earlier successes on projects with similar applications. **Russian partner's CMM level is relatively the lowest comparing to that of Ireland and Indian.**

For the allocation of project time, Russian partners tend to **focus heavily on development time**, which accounts for about 46% of the total time, while **pay less attention to project management time**, which accounts for about 13%. Although the Ireland and Indian share the same tendency, the % difference between the allocated time is narrower than that of Russia.

Russian partners are **small in extent when it comes to the use of coordination technology and tools**, such as requirement managers, architectural modelers, test automation tools, test case development tools, configuration managers and defect & change request tracking tools. The use of requirement managers is particularly limited, while the use of defect & change request tracking tooling is relatively greater. If comparing to counterparts in other 2 clusters, one outstanding result is that Russian partners seems to have a significant greater extent in the use of architectural modelers.

### What may the results imply?

Based on the research data, Russian partners seems not to pay much attention to the project management aspect but focus more on the actual development of the system. These may have two reasons:

1. Russian partners don't think project management is important.
2. Russian partners don't have sufficient project management skills.

Either this case leads to problems of time and costs control. Because working relationship with the clients are indirect and distant, it is also difficult for clients to compensate this problem with a tighter monitoring and control from their side or share knowledge on the aspect. This may explain Russian partners' serious time and budget overrun of the project.

The limited extent in the use of coordination technology and tools, particularly the requirements managers may also give rise to the potential problem of partners not getting a full picture or precise understanding of the project requirements, thus, explains the significant high defective rate at the start.

The ways the Russian partners' handle and manage the project, which take into consideration their attitude to the matter and the tools and technique they used, may also explain their flexibility to changes throughout the project stages. Research shows that **flexibility is diminishing once coding is completed**. Such trend is normal in system development project with higher flexibility at the earliest stages while lowest in the latest. The **overall flexibility of Russian partners, however, is lower than that of Ireland and Indian clusters**. Is it due to difference in the use of system methodology, in the effectiveness of the communication of changes between clients and partners, in project management, or in the acceptance and openness of changes by Russian partners? All these possible reasons may take a place but further research may be required to find out the primary one. A more concrete finding from the research is that they **system developed under the Russian 'ways' has a relatively insulated relationship with the clients' other system**, especially compare to that of Indian partner. That means the Russian developed systems tend to be modular, independent and loosely coupled. The strength about



this is the system itself is more flexible to be changed without affecting others in a large extent. The weakness is that there may be potential problems of incompatibility and mismatch with the existing business systems.

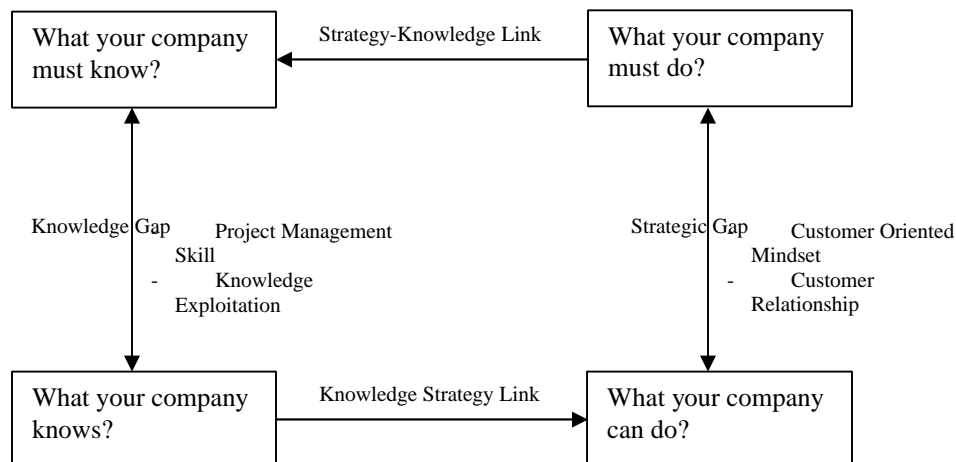
### 3. Recommendations

Based on the background information and our analysis of Russian dataset, we are aware that Russian companies have their strengths as well as weakness. Taking into account of their rivals from India and Ireland and the dynamic environment, Russian companies must put an effort to obtain more positive measures, or even aggressive ones, to change their stats quo and leverage their strengths if they strongly intends to gain a predominant presence in the IT development industry.

Our team would like to suggest some recommendations mainly based on the framework of knowledge management. Considering the effectiveness and the practicability of recommendation, we include **strategic** and **tactical** levels in order the company to streamline its strategy and tackle with its day-to-day operation.

#### 3.1. Strategic Recommendations

In the strategic level, we apply the idea of knowledge maps by Michael Zack in order to identify the competitive opportunities. After analyzing, we discovered



#### Streamline Customer-Oriented Mindset

When we want to have a successful business, only counting on technology expertise is far from enough. The success comes from clients' satisfaction with our products or services. So we need to set up a **Customers Oriented Business Model** at the very beginning. We need to think beyond technology. The management people should educate technical staff with this idea and make them see our goal is to make customers happy with our products or services.

With the **Customers Oriented Business Model**, the companies need to ensure enough **communications** with their clients during the whole process of the project. One trap the design people are easy to fall into is to be obsessed with the idea that the best product is the technically perfect ones. However, market



teaches us that the best products are those, which meet customers' requirement. Everyone knows there are a knowledge unbalance between Russian IT companies and their clients. The companies may know much more specific knowledge than their clients do. But if the companies' technical people just stick to old mindset not to communicate with clients frequently enough, maybe, at last, the products the company comes up with is totally different from what the client expect.

In order to make the communications between companies and their clients, we suggest **enhancing the use of requirement managers**. The requirement managers act as facilitator to connect company with clients. They can help the companies' technical people strengthen the understanding of user requirements in user's point of view. With their help, the technical people will have a right direction to work at the very beginning and can work with great flexibility during the whole project.

### Strengthen Customer Relationship

As we already said in the background part, the IT development sector has much growth potential in the future. Russian companies have excellent technical knowledge and large pool of talents, which may give them a competitive advantage over their rivals as long as their can foster a long term relationship with their clients.

In the IT development business, we need to clarify one point: **It's not just about technical competency, it's a business!** Since it is a business and a lot of competition will emerge in the near future, Russian companies must try to build a strategic longterm relationship with their existing clients so as to gain the **First Mover Advantage** over the new comer. **Advantages from technology may evaporate overnight because of revolution or even innovation in technology, but strategic relationship do survive ups and downs in business.**

In order to set up sound relationships with clients, the companies need to do a lot of sales and marketing homework. This depends on different companies. Normally, the companies shall give their marketing and sales department more authority to win the trust from clients. The companies shall try to make the project a lasting one. The relationship shall not finish with the completion of one specific project. Instead, we can track the project and give technical support or update our clients with the latest development of the products. **Try to make the relationship a strategic partnership.**

**When Russian companies build strategic partnership with clients, one thing on their work agenda is to get rid of the broker.** Brokers not only increase transaction cost, but also undermine the efficiency of setting up strategic partnership with clients. From our analysis of the data, we find Russian companies have the lowest ranks in the aspects of perceived collaboration, working relationship, frequency of interaction as well as flexibility to change. The existence of broker is one of the most important cause leading to such a low ranks, if not the solely one.

Without direct collaborated relationship with clients, it is impossible for the companies to build trust with clients, let alone strategic partnership.

### Re-align Customer Interface

Middleman has long been notorious for the Russian companies. These not only impede the growth opportunity of company for project acquisition but also erode the existing market share and deteriorate the image. Dealing the project with the Russian, brokers play a very important role to bid, take, manage and distribute works between Russian firms. The clients have little opportunity to directly contact with their counterparts especially in staff levels. Poor communication between developers and customers

usually leads to obscure scopes, misunderstanding objectives and incomplete works. These result in high rate of rework, time and budget overrun.

Consequently, Russian firms should eliminate middleman in their business cycle and they, actually, have the ability to do so. Omitting the role of middleman, Russian companies are able to drastically improve their knowledge sharing, knowledge acquisition, knowledge utilization, project management, customer relationship and customer satisfaction with more understanding in customer's needs which, ultimately, results in customer satisfaction and retention.

### **Improve Project Management Skill**

Russian companies seem to have lowest project management skill. As evidence from data analysis, Russians firms spend lowest time and resource in project management, unsurprisingly, their projects take longer time to complete than others. Instead of saving time from planning stage, they have to sacrifice more time and resource to deal with unstructured processes.

Hence, project management is a key success factor for Russian enterprises that executives have to align in their vision and mission. Needless to say that supporting such activity requires an investment in educating their staff and managers, providing softwares and other necessary tools, and supporting with other needed resources .

### **Maximize Knowledge exploitation**

Most assets are subject to diminishing returns, but not knowledge. In traditional industrial economics, assets decline in value as more people use them. By contrast, knowledge assets can grow in value when they become a standard on which others can build.

One of the distinguished advantages of Russia is its technological strength. Russians are perceived to have huge human intellectual resource in Information Technology. Thanks to massive government-sponsored scientific initiatives and a highly developed academic complex founded by former Soviet Union decades ago, the Russians retain highly-technological background and are able to apply their knowledge and imaginative thinking to creatively solve very complex problems. Apparently, from data analysis, Russian firms has higher rate of the projects awareness, which means their clients' projects are not new for them, comparatively to their peers.

However, this advantage does not distinguish Russian companies from their counterparts in aspect of knowledge application from data analysis part. Therefore, they should emphasize on how to exploiting their existing knowledge in order to to consistently innovate and create value to their businesses.

## **3.2. Tactical Recommendations**

### **Reduce defective rate and increase system reliability --> reduce rework**

Despite of the technical expertise advantages over their rivals, Russian companies have a higher defective rate and frequency of rework. This not only costs more money (this means the already thin margin much thinner), but also cost the companies' reputation. So the companies must take concrete measures to reduce that.

**Setting up strict quality control system and implementing it to the project** is the first step to be taken to address the high defective rate problem. Always give the technical people a clear idea what the standard is and where to look for the reference when different opinion on design emerges.

Another measure is to reach a **agreement with clients on the acceptance level of the products**. With the agreement in hand, the technical people in companies have a bottomline in their mind on how to process the work. On the other hand, it will help the products strictly meet the client's requirement.

### Prevent time and budget overrun

A profitable business shall have a sound management system for the whole process of the project. Otherwise, the expected profit may be not enough to compensate for the extra expenditure caused by some unexpected reasons. That's why many good projects go into red at last. Therefore, a **sound project management system is vital to ensure the on time delivery and profit of a project**.

In the project management system, there should be clear object and scope of the project, the deadline and milestones as well as progress monitors and control etc. With a well-planned management system, the companies will effectively prevent time and budget overrun, which also implies the company can expect the profit with more confidence.

**Another important part included in the project management is the efforts from clients**. The clients shall cooperate with companies to make sure the project will be completed before the agreed deadline. And also, the clients are required to pay extra money to the companies if they want to make some big changes which involve big budget.

There should be a clear division of roles and responsibilities between clients and service firm in project progress and output monitoring and control.

### Enhance liaison and coordination

As we had already said in the strategic recommendations, Russian companies need to strengthen relationships with clients and even build up strategic partnership with them eventually. In order to materialize this strategy, Russian companies need to enhance liaison and coordination with the clients during the project.

The right way to enhance liaison and coordination is to **assign specialized party to be responsible for liaison and coordination in technical and business knowledge** respectively. Try to get right people for the right job so as to maximise the efficiency of coordination.

Besides special task force, there should be a **system for meetings with clients, both regular meetings and contingent ones, in the aim to communicate with clients frequently enough to discuss and solve all the problems as soon as they come up**. In doing so, the company will greatly improve their efficiency and reduce the odds of rework.

Enhancing liaison and coordination may also require to **build up an internal and external communication network**.

### Improve employee's English proficiency

- Compared with their India and Irish competitors, one of Russian companies' weakness is the language barrier. **Language barriers pose a threat in the exchange of knowledge between the Russian firm and its U.S. counterpart**. Differences in language produce foreseeable difficulties in communications with customers from the U.S., hindering knowledge sharing between the firms that could enrich the relationship and produce better project outcomes.

- The weakness posed by language barriers often results in the dependence on project managers that are not as well experienced as they should be, only because they do speak English. This produces an inevitable emphasis on the technical matters of a given project, and less on the management aspects also necessary for a successful relationship with the customer. So it is urgent for Russian companies to put improving employees' English proficiency on its top agenda. Only in this way can they eliminate the gap in knowledge sharing which partly is caused by language difference.