

Methodology for Evaluation and Forecasting of Russian IT-Services Market

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Abstract: The article describes the author's authentic methodology for evaluation of the Russian IT services market which allows improving the reliability of the estimation not only of the IT services market itself but the overall IT market. Owing to the implementation of the methodology it became possible to analyze the current state, the structure, the capacity and development perspectives of the Russian market of Information Technologies. The urgency of the topic under study is determined by instability, by the ambiguity of external conditions which can directly affect the development of business entities in the market conditions. Such a situation enables the necessity in the methodology for evaluation and forecasting of possible changes of market environment based on scientifically grounded methods. The methodologies introduced in the article can be of great interest not only for the specialists in this sphere of knowledge but they can attract the attention of many organizations operating in the market of information technologies, as precise information about the volumes and the structure of the Russian market (or any other developing market) of information technologies is of significant importance for successful business, yet it has been rather a complicated process to get it, alongside with the level of reliability which remains low due to the inaccessibility and non-transparency of the Russian economy. The author reckons that the evaluation approach proposed in the article can be applied not only to the IT market but to other services markets where the cost of services is the important characteristic.

Key words: IT-services • Market evaluation • Information technologies • Emerging markets • Forecasting

INTRODUCTION

At the present moment the Russian IT services market proves to be immature and is not making any significant commitment into the global market. At the same time the structure of the Russian market significantly differs from industrially advanced countries. But the key problem of the Russian IT market is not even its lagging behind the development but its inaccessibility and non-transparency. No data is available concerning the quantity, direction and the cost of the contracts executed as well as the costs on services in different categories of the IT market; what's more, there is no data about the cost of the equipment and software products as this cost for different projects can greatly differ. As the result there is no precise information to use for the valid investigation of the IT market, for the assessment of its state, capacity, structure, tendency and verifiable development forecasts. The majority of the companies assessing the IT market differ in their

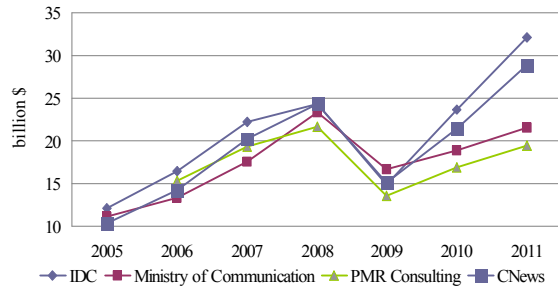
opinions; moreover, the divergence occurs in both quantitative and qualitative assessment of the IT market development dynamics.

Sources for Table 1:

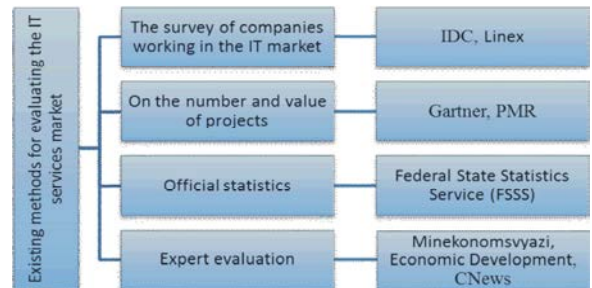
- PMR Consulting is a British-American company providing market information, advice and services to international businesses interested in Central and Eastern Europe as well as other emerging markets;
- The Ministry of Economic Development of the Russian Federation;
- International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services and events for the information technology, telecommunications and consumer technology markets;
- The Ministry of Telecom and Mass Communications of the Russian Federation;
- CNews — the largest media in the area of high technologies in Russia and CIS countries.

Table 1: Revenue of the IT-market by different research agencies

	Revenue of the IT-market (RUR billion)				
	2007	2008	2009	2010	2011
PMR Consulting [1]	493	539	412	506	584
Ministry of Economic Development [2]	493	580	496	566	649
IDC [3]	454	615	449	735	979
Ministry of Communication [4]	450	580	500	566	649
CNews [5]	444	609	466	645	868



Pic. 1: Different evaluation of the Russian IT market volume, 2005-2011



Pic. 2: The methods of evaluation of IT services market

The author analyzed the methodology of the evaluation of the services provided by the IT-market employed by the most popular research agencies (PMR Consulting, IDC, Market Visio [6] (Russian representative of Gartner[7]), CNews, Federal State Statistics Service (FSSS)[8] etc.) and came to the conclusion that there are two extremes which define the volume of the IT services in Russia:

- Federal State Statistics Service (FSSS) underestimates the market to a great extent, as the major part of money flows pass through grey schemes and the majority of the leading IT companies have their representative offices in off-shore zones, where they make the greater part of their deals. No wonder that according to the official statistics the IT- market share in GDP in 2008 comprises only 0,48% (that proves to be 4 times as little as real volumes).
- On the contrast, analytical research agencies significantly overestimate the market or the part of the market where the profits of the leading IT companies are calculated. Analytical companies have to operate the data that is voluntarily provided by the market participants. Yet such information has two drawbacks – it is subjective and there is no possibility to check it.

Methodology of evaluation of IT services market developed by IDC is presented in Russia IT Services reports [10]. Methodology of evaluation

of IT services market developed by Market Visio is presented in The Russian IT market report, 2004 [16].

The existing estimation of the IT-market at the present moment has significant defects, so by combining the methods of different research agencies and coordinating the data received, it is likely to get more precise estimation of the IT service market that will allow hereafter to assess overall IT-market with more accurate precision.

The Objective of the Article Is the Methodology of the Universal Mechanism for Analyzing Russian IT Service Market:

The simplest way to evaluate the IT market is estimation by the number of the consultants. The company’s revenue volume on the part of the IT services can be estimated if you know the quantity of the employees, their workload and average labor cost in this sphere. Mathematically it can be expressed in the following way

$$V_i = N_i * X_i * n * k * 365$$

- V_i - Company annual turnover;
- X_i - The cost of the consultant’s services per hour;
- n - The duration of the average working day (due to the Labor Code the working day must not exceed 8 hours. In case there is lacking of qualified employees and big volume of projects the average duration of the day comprises 10 hours).

Table 2: Advantages and disadvantages of different methods of evaluation

Method	Advantages	Disadvantages
On the number and value of the projects in different vertical sectors.	Truthful information is mainly provided. The Clients are honest in presenting the data concerning the volumes of the IT projects done over the past period, their cost, the quality of the prosecution, annual budget for the services So far this method is efficient for: 1. Income assessment in different directions; 2. Monitoring the rise and further development of IT services and new products in the Russian market. Companies are often ready to be transparent to speak about the difficulties appearing and provide precise data on obliged staff redundancy, budget reduction on IT services and so on, which allows to make the estimation in unstable period.	1. Impossibility to survey all the branch companies. By undertaking such studies the largest companies are considered. That's why the companies of SMB sector are left overboard. 2. This method cannot be combined with the official statistics and make the revaluation as IT budgets of all Russian companies must be estimated, what's makes it impossible 3. If in the market B2C one unrecorded project does not make any error in the market evaluation, a big complex project can amount significant profit share of the whole IT-market 4. The companies of social and public sectors (education, medicine and etc.) are rarely surveyed.
The survey of the companies working in the IT market	Such surveys consider detailed income distribution: each separate direction is examined ;the leaders of these directions are ranked; the vertical market segmentation is carried out; forecasts adjusted for expertise (the survey of IT- services suppliers) are made	1. The assessment is based on the voluntary given data, which is not checked and often is overvalued. 2. The IT-service suppliers not participating in the survey are assessed due to the official statistics (Russian Federal State Statistics Service (Rosstat) with only little correction. As the result, this part is significantly underreported, since the majority of the small companies prefer not to declare their profits.
Official statistics	The official statistics must respond to the questions stated below regarding all industry markets: 1. market income, possibly income regarding large categories of the market. In Russia, for instance, income distribution is conducted in the direction TL and IT, besides that, attempts have been made to divide such directions as software, system and computer equipment and IT services; 2. official statistics provides data concerning the market personnel payment and monthly dynamics of this index; 3. number of people involved in this market; official financial accounts and etc. 4. full and complete list of all IT-market participants	The information provided by the companies operating in the IT-market is inadequate
Expert evaluation	Leading research companies are surveyed so drawbacks of every separate method are hidden	The results of the surveys are not carefully analyzed, the average is considered

Under crisis conditions the index has to be overviewed, for some companies it tends to reach 0;

k - Amortization factor (sick leaves, days off, holidays). The average amortization factor of an employee comprises 0,6; maximum – 0,8.

The most difficult was to estimate the cost of a specialist in different categories of the IT services, as the range of the price dispersion can reach 300% that exceeds analogical data for the markets of majority countries and characterizes Russian IT market immaturity. Enormous price dispersion, information inaccessibility in terms of price formation and non-marketable ways of fighting with

much lower prices of the competitors allow inefficient IT services suppliers to remain successfully in the market. Yet the suppliers of the IT-service investing in the effective organization of their businesses lose to the less effective competitors and that leads to the negative selection of Russian IT specialists. To identify the price dispersion for the specialists in the Russian IT market the research “Linex” conducted in 2008 was used.

Sources: list of TOP-20 leading IT-service companies has been changed annually in period of 2001-2011 according to annual Russia IT Services reports issued by IDC[10]. Group of 1st echelon consisted of the rest of companies which was named in this reports; Lists of 1st echelon was also extended for

Table 2: Analysis of average cost for IT specialists in all types of services, 2008

IT-services categories	Average price of			Average price of			Average global	
	Average price	Price range Top-20	1 st echelon, as% of average price Top-20	Price range	2 nd echelon, as% of average price Top-20	Price range	price, as% of average price Top-20	Price range
Support and Deploy Total	\$318	23-226%	113%	60-153%	54%	23-108%	151%	36-226%
Software development	\$486	20-244%	113%	77-160%	58%	20-99%	164%	59-244%
System Integration	\$649	23-216%	122%	71-207%	59%	23-104%	169%	68-216%
Implementation consulting	\$902	27-245%	132%	93-245%	59%	27-96%	167%	67-245%
IT -Consulting	\$1 252	25-215%	129%	84-215%	55%	25-85%	160%	85-215%
Business Consulting	\$1 985	23-162%	141%	119-162%	65%	23-126%	131%	89-162%
Average project prices	\$777	24-188%	123%	81-159%	63%	24-131%	141%	53-188%

several categories: *Implementation consulting category was extended by companies from IDC Russia Enterprise Application Software report [11] and SAP Special Report – Russia [12]; Support and Deploy Total category was extended by companies from IDC Russia Personal Computing reports [13]. As result, lists of TOP-20 and 1st echelon contained from 83 to 103 companies in total. List of 2nd echelon was based on reports of “Linex” and FSSS and contained 237 specialized or niche companies from Moscow within period of 2001 - 2011. Source for the rest of data is community of Independent analysts “Linex”[9].*

Because of the large dispersion in the prices among different IT services suppliers as well as the price dispersion by different IT services categories, there is no opportunity to evaluate directly company’s profits with the use of the mathematical formula represented earlier. The elaboration of the methodology, which will take into consideration the specific character of the Russian price formation, is needed. Therefore, we use mathematical relation given above with its modernization:

$$V = \sum_i^6 V_i = \sum_i^6 (N_i * X_i * n * k * 365) \tag{1}$$

$$V_i = N_i * X_i * n * k * 365 \tag{2}$$

- V* - Annual turnover of the company;
- V_i* - Annual turnover of the company in the category *I*;
- X_i* - Average cost of the consultant per hour in the category *I*;
- N_i* - Number of the consultants providing the services in the category *I*;
- n* - Duration of average working day;
- k* - Amortization factor for an employee;
- i* - IT-services category:
 - *i=1* –support and deployment of the IT-system;
 - *i=2* –custom software development;

- *i=3* – system integration;
- *i=4* –implementation consulting;
- *i=5* –IT consulting;
- *i=6* – Business Consulting.

The formula (2) is spelled out as average, maximum and minimum possible profit by category:

$$V_{min}^i = N_i * X_{min}^i * n_{min} * k_{min} * 365,$$

$$V_{max}^i = N_i * X_{max}^i * n_{max} * k_{max} * 365,$$

$$V_{middle}^i = N_i * X_{middle}^i * n_{middle} * k_{middle} * 365,$$

Where *X_{middle}* is not arithmetical average between *X_{min}* и *X_{max}*, but arithmetical average of all salaries by category;

The methodology has been developed to estimate the market under the conditions of stable economy, so the estimation does not take into consideration consultant’s down time in the absence of the core project. Then *n_{min}=n_{middle}=8* hours, according to the Labour Code, *k_{min}=k_{middle}=0,6* – work capacity factor takes into account sick leaves, days off and holidays;

Ultimately we get:

$$V_{max}^i = N_i * X_{max}^i * 10 * 0,7 * 365,$$

$$V_{middle}^i = N_i * X_{middle}^i * 8 * 0,6 * 365$$

Thus, we can estimate maximum possible and average in the market turnover of any company on the part of IT-consulting per year:

$$V_{max}^{company} = \sum_i^6 V_{max}^i = 10 * 0,7 * 365 * (N_1 * X_{max}^1 + N_2 * X_{max}^2 + N_3 * X_{max}^3 + N_4 * X_{max}^4 + N_5 * X_{max}^5 + N_6 * X_{max}^6)$$

$$V_{middle}^{company} = \sum_i^6 V_{middle}^i = 10 * 0,7 * 365 * (N_1 * X_{middle}^1 + N_2 * X_{middle}^2 + N_3 * X_{middle}^3 + N_4 * X_{middle}^4 + N_5 * X_{middle}^5 + N_6 * X_{middle}^6)$$

If the turnover of the company $V_{company}$, furnished to analytical agencies is above average then the market correspondence degree is estimated with the following formula:

$$P = \frac{V_{company} - V_{middle}}{V_{max} - V_{middle}} * 100\%$$

The result shows by how much the turnover of the company is higher than the average possible, in percentage terms from maximum possible excess.

If the turnover of the company is below average then the market correspondence degree is estimated with the following formula:

$$P = \frac{V_{middle} - V_{company}}{V_{middle}} * 100\%$$

The result shows by how much the turnover of the company is lower than the average possible, in percentage terms from average possible turnover.

These results can be interpreted in such a way:

$P < -1$ — turnover declared by the company is significantly lower than the market average. The main reasons why the turnover of the company can be below the market average are:

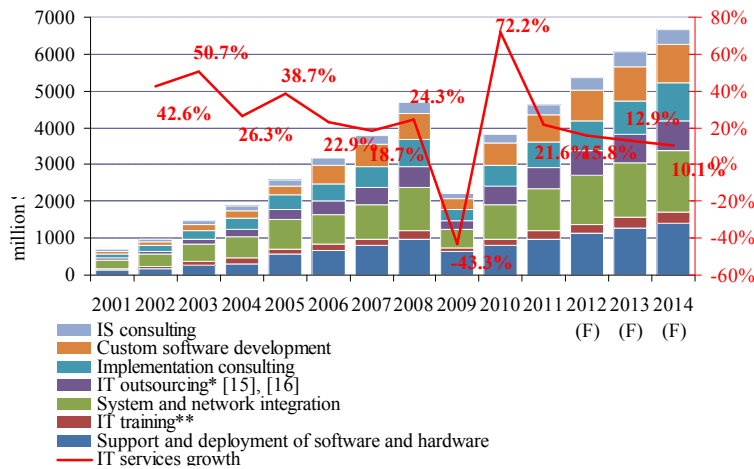
- Lack of contracts, that is, the number of consultants significantly exceeds the number needed for the prosecution of the contracts in existence. This fact proves that there exist prominent problems in the company. For example, “Open Technologies” is the company which had been the main contractor for the implementation of EPR in “Svyazinvest”. In 2005 approximately 56% (more than \$136m) of the company turnover accounted for the projects in the holding, by the year 2007 the profit share had exceeded 60%. After the company had been deprived of the functions of the general contractor of “Svyazinvest”, it got into significant trouble. Consequently, a great number of the employees were made redundant and the company profit halved;

- The company is developing new directions and competencies, it is entering new industrial markets and the development of a new direction starts with the recruitment of consultants;
 - Providing not expensive services – for instance, service companies;
 - The major part of the personnel is hired without experience, with salary lower than the market average. As the result the staff have low competency, high staff turnover leads to the negative implementation of the project. Strange as it might seem such tendency is pertain to the majority of the leading participants (that is why such companies are called “source of manpower”). Such approach allows IT companies to dump in the market.
- $-1 < P < 0$ — declared turnover below the market average;
- $0 < P < 1$ — declared turnover above the market average but within maximum possible turnover;
- $P > 1$ — declared turnover exceeds maximum possible.

Initially the given methodology was developed to correct the turnover provided by the leading Russian integrators in the frame of the survey hold in 2007 to draw up the rating Cnews [5]. The results are given in the IT services market review, 2007.

Apparently, the market must be divided into two sectors - leading IT services suppliers and the rest of the companies operating in the market. Such division stands beyond the specifics of the IT services market as the major part of the market profit accrue to the leading companies: in the year 2010, according to the research company IDC, 57% of the IT services market turnover was made by 50 largest companies.

To solve the second task – more precise estimation of the total revenue volume –the approach is offered by which the revenue of so called “new IT companies” can be measured. As Russian economy in the IT services market advances, along with traditional resellers and system integrators, new types of companies providing IT services emerged. Numerous insourcing companies spinned off from Russian industrial giants as well as plenty service companies providing wide range of services in the sphere of Internet and Intranet (from WEB- design studios to internal search services) can be attributed to such “new IT companies”. The developers of cellular mobile content, digital processing studios for movie production and



Source: the author’s estimation, this method wasn’t applied to the categories of IT outsourcing and IT training, these categories were evaluated by expertise

Pic. 4: IT- services distribution by the key categories on Russia, 2001-2014(F)

teleproduction, the developers of embedded system of information collection and processing and a great number of other companies with absolutely new for the Russian market types of IT services can be referred to this group. These companies develop very quickly and year by year their commitment to the IT services market is getting more weighty.

As the result all the companies operating in the market of IT technologies were divided into groups. The list of the companies (to be more exact, the number of the companies providing IT services according to the classification by the Federal State Statistics Service) was taken from the official statistics presented by the Federal State Statistics Service. Sample companies were chosen from all groups, average cost of the consultant per hour was established, hereafter the estimation of “new IT companies” was made.

The application of the method described above allowed the author to improve the intelligible data and get the overall picture of IT services market in Russia.

The strongest directions of IT-services in Russia prove to be: system and network integration and support and deploy of software and hardware. According to the data in 2008 these two directions accounted for 45.7% of all costs on IT services.

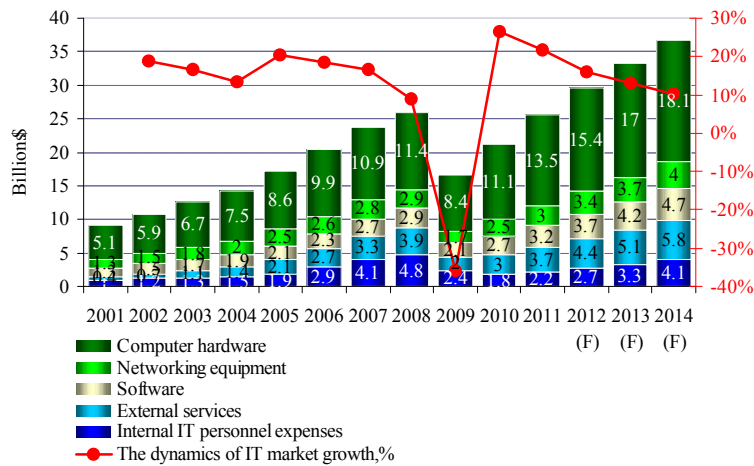
System integration is in great demand in the spheres of finance and telecommunication where reliability and continuity of IT infrastructure are essential requirements. Owing to the fact that integration in Russia is a profitable sector, in the period under review the companies providing services in this sphere were inclined to consolidate. At the same time, despite the high level of

consolidation in the market of system integration severe competition is observed. Both these tendencies are explained by the following factors characteristic for the period under review:

- The volumes of contracts for IT services in system integration are high;
- The number of large clients and consequently, the number of significant projects are limited;
- The key leading integrators leave simple distributor projects of supplying software and hardware for more sophisticated (complex) projects of developing IT infrastructure, by reducing the amount of simple (low margin) projects.

The segment of software and hardware support and deployment is the second in the volume. This direction is rapidly developing, the following incipient tendencies characteristic for this period conduce to it:

- The process of whitewashing Russian largest companies, which due to the changes in the internal corporate policy have come to the decision to install only licensed software, is going on;
- Cost reduction on internal technical personnel: due to the cost rise for “labor force” it has become unprofitable for many companies to maintain own technical support team, so there appeared a new tendency not only to contract equipment supply but as well to contract installation and support of the equipment. In other words, the tendency to pass the function of support to outsourcing has risen;



Source: the author’s estimation

Pic. 10: The dynamics of total expenses on IT by categories in Russia, 2001-2014(F)

- Year by year the developers of new software provides more sophisticated program products which demand constant support. So large companies (organizations) find it more profitable to use licensed software and hire outside firms for constant support than to maintain numerous staff of own specialists for support and deploy.

By knowing the profit of IT services we can estimate the whole market of information technologies.

CONCLUSIONS

The methodology for evaluation and forecasting of the Russian IT services market has been developed, which includes the estimation of the average profit of the market participants taking into consideration differences in IT services directions that allowed to estimate the market more objectively by functional and vertical sections. That allowed to evaluate more precisely the overall IT services market.

In accordance with the results of the analysis of the amended estimate it became possible to conclude that there are signs of changes in the Russian IT-market structure towards global trends in the future and further contribution in the global IT market, that is besides deferred demand, accumulated since the Soviet times, a new moving impulse - “market impulse” has appeared.

Short-term forecasts till the year 2014 have been made proceeding from the assumption about gradual rehabilitation of the Russian economy and long-term forecasts in the process of stably developing economy.

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