An analysis of IT outsourcing models in the digital education process

S V Fedorova

Institute of Natural Resources Management, Department of Industrial Ecology and Life Safety, Irkutsk National Research Technical University, 83 Lermontov st., Irkutsk 664074, Russia

E-mail: fsta65@yandex.ru

Abstract. One of the issues of development of the digital educational process is the use of IT outsourcing technologies. IT outsourcing is a group of services provided by a third-party company specializing in these processes. This type of outsourcing has recently appeared, but it has become one of the most popular outsourcing services. Many companies prefer to implementing outsourcing schemes. They usually start with IT outsourcing, which is one of the most relevant and successful business models that allows you to get competitive advantages. The paper attempts to summarize and analyze the IT outsourcing market from the perspective of analyzing models used in the digital process for enterprises in various sectors of the economy. The object of this study is MAYKOR, the largest IT outsourcer in the Russian market. The goal of the work is to analyze IT outsourcing models in the context of various professional fields.

1. Introduction

MAYKOR LLC is the largest company in the IT outsourcing market of Russia. It deals with IT equipment, engineering systems and business applications. [1]. Its mission is efficient operation and development of the infrastructure of large and medium-sized enterprises throughout the country. With its own network of 83 branches and 400 local units covering the entire territory of Russia, MAYKOR provides services on a “one-stop-shop” basis. The company employs more than 4,000 certified engineers. MAYKOR's customers include more than 1200 organizations, the largest companies in all industries. [2]. MAYKOR has a unique center of competence, programs on additional specialized training for technical specialists, the developed logistics infrastructure, automated monitoring and control systems, and a quality management system which is in line with international ISO standards. MAYKOR includes such subsidiaries as GMCS, ENSPACE, and BetterFly.

2. Materials and methods

The company was founded in 2010. In 2011, the MAYKOR brand was created. In 2013, the company received its first investment from RDIF, EBRD and CapMan Russia II. In 2014, MAYKOR was included in the IAOP 2014 Global Outsourcing 100 [3].

The company's position in the IT outsourcing market is presented in Table 1. The company occupies a leading position in the IT outsourcing market due to its powerful resources. The company has its own production and technical resources, well-developed logistics infrastructure, certified specialists; high quality of services. The company complies with the SLA
requirements. It provides round-the-clock customer support. [4]. It has experience and deep industry expertise; it provides a wide range of services in the Russian regions. It provides a full range of services for geographically distributed and local companies. It has unified tariffs for all companies. The company implements innovative technologies. Among the MAYKOR customers, there are companies from different market sectors, federal and regional bodies (table 2)

Table 1. Company Positions in Rankings.

| Company                                                                 | Ranking position                                                                 |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| International Association of Outsourcing Professionals (IAOP)          | TOP-100 in THE WORLD RANKING of the largest outsourcing companies, “Leaders” category |
| ISG (Informational Service Group)                                      | Top 10 leading outsourcers in the EMEA region based on the SG Global Outsourcing Index, 2017 |
| International analytical company                                       | Laureate of the TIME OF INNOVATION AWARD Nomination “Project of the Year: Innovations in Banking Services”, category “Business and Service”, 2014 Nomination “Organizational and Management Innovation of the Year”, category “IT and Telecommunications”, 2013 |
| Award supported by the Ministry of Economic Development of Russia,    |                                                                                   |
| the Ministry of Communications of Russia and the Russian Venture Company |                                                                                   |
| Expert RA                                                              | TOP-10 companies providing IT services in Russia, 2016 results                   |
| The largest international rating agency in Russia                     | TOP 20 leading Russian IT companies, 2016 results                                  |
| Leading industry analytical agency of Russia                          | Top of the Largest Russian IT companies, 2016. Top 3 Largest suppliers of IT services for retail companies, 2016 |
| C.news                                                                 |                                                                                   |

Table 2. MAYKOR customers.

| Industry                  | Companies                                                                 |
|---------------------------|---------------------------------------------------------------------------|
| Trade                     | XSRetailGroup, Metro, Ikea, Detsky mir, Disks, MediaMart                   |
| Telecommunication         | Beeline, Megaphone, MTS, Rostelecom, Yota, Skylink                        |
| Finance                   | Sberbank, VTB-24, Gazprombank, Russian Standard, Russian                  |
|                           | Agricultural Bank, RaiffeisenBank                                         |
| Oil and gas               | Gazprom, Rosneft, Transneft, Bashneft, Lukoil, Neste Oil                  |
| Production                | Severstal, Sibur, Roca, Valio, OTIS, GAZ Group                           |
| Power industry            | Rosseti, SUEK, Rus Hydro, E-on, TGK-2                                     |
| Government sector (federal level) | Russian Federation, EMERCOM of Russia, Federal Service of Bailiffs,   |
|                           | Social Insurance Fund of the Russian Federation, Ministry of Finance of the |
|                           | Ministry of Agriculture of Russia, Russian Post, FSUE GOZNAK, Federal      |
|                           | Customs Service                                                           |

3. Results and analysis

Today, MAYKOR offers the following services:

IT services outsourcing: computer and office equipment; network equipment and telephony; data processing and storage systems; custom software; cloud services.

Services provided to industries: trade equipment; banking equipment; infrastructure of gas stations and oil depots; communication objects; energy billing [5].

Engineering infrastructure management: security systems; fire-fighting systems; climate systems; power supply and backup power; automation and scheduling of buildings.
Business solutions: workstation; print outsourcing; trade management; call centers; workforce management; GLONASS / GPS monitoring and scheduling of vehicles.

Implementation and support of business applications: enterprise resource management; financial management; planning and analysis; budgeting and business performance management; sales and service management; manufacturing control; supply chain management; personnel management; mobile applications; billing management; industry solutions. [6].

Outsourcing of business processes: accounting and reporting; tax accounting and reporting; HR management; streaming input of documents.

In recent years, many Russian companies have been consolidated; as a result, large federal players have emerged in various industries (e.g., large retail chains, banking institutions, gas stations, etc.). Due to the range of managerial and financial reasons, such large companies strive to introduce non-core activities. The Russian market of IT-services and outsourcing consists of a large number of small companies that are hardly able to provide services outside one region. In addition, Russian system integrators are trying to develop such services, but they use services of subcontractors [7]. Thus, for large companies, the use of IT outsourcing services was skillful control over a large number of companies. Today, this approach is outdated.

Firstly, the client is forced to pay a double margin: to the general contractor - for managing the project and the subcontractor - for providing the service. Secondly, it is impossible to provide identical services in different regions and rely on the competence of contractors [8]. If these are subcontracting organizations, it is not clear how to monitor the effectiveness of their work. To be in line with this SLA framework, you need to have your own engineers, technologies, a system for planning and dispatching specialists, monitor repair processes. MAYKOR has an evident advantage. Thirdly, due to a variety of IT services, it is extremely difficult to look for new companies capable of developing and supporting them. The customer cannot keep pace with new technologies. They should manage their own business in the conditions of constant changes. Therefore, the clients need support of a service company [9]. In the service business, the scale factor is of great importance. To work efficiently, you need to have equipment for provide services within one territory. Correct mechanisms for the efficient use of engineers' time are required. As a result, small regional service companies have no advantages [10].

4. Discussion
MAYKOR provides comprehensive services to ensure high performance and reliable operation of the company's IT infrastructure. It provides a full range of services in the field of IT outsourcing: management centralization, service support and development of the customer's IT infrastructure; technical equipment and launch of "turnkey" geographically distributed objects - offices, branches, warehouses, points of sale and customer service - regardless of their location; transfer of the entire technological infrastructure to new premises: inventory, installation / dismantling, reconnection, configuration and testing of systems [11]. MAYKOR provides comprehensive services for automated workstations (AWS), including PCs, laptops, printing and copying machines, scanners, multifunction devices, and peripheral equipment. The company installs mail and anti-virus systems and system software [12]. The list of main maintenance works includes online monitoring and equipment operation management; scheduled maintenance; urgent repair, replacement of spare parts and consumables; installation of new equipment; setting up and updating software; deployment, transfer and modernization of jobs; connection of workplaces to network printing devices, automatic telephone exchanges; leasing; providing company with experts [13]. Among the MAYKOR clients, the following companies can be mentioned: MTS, Megafon, Svyaznoy, X5 Retail Group, Metro, Sportmaster, Benetton”, “Rigla”, “Sberbank”, “Russian Agricultural Bank”, “Russian Post”, “Logibox”, etc.
5. Conclusion

Maintenance of IT infrastructure and office equipment is one of the main activities. The company is able to provide customers with a full range of services, including “print service”. This service implies a long-term lease of printing equipment from an outsourcer. They pay for each printed page. The price of one copy includes all consumables, spare parts and required work [14]. Customers pay one invoice per month. Due to the print service, the savings are 20-30%. In addition, MAYKOR deals with automated workstations on the basis of a long-term lease, installs equipment (computers, printers, etc.). Accordingly, the outsourcer maintains and updates equipment. It can upgrade the infrastructure on a rental basis. MAYKOR maintains equipment in the telecommunications market. MAYKOR performs a full range of works associated with corporate data transmission networks; structured cabling systems; local area networks; office wireless networks: Wi-Fi, Hot-spot, DECT WAN; network resource monitoring and management systems; telephony systems: traditional and IP-telephony systems; audio and video conferencing, congress systems, terrestrial and satellite television systems. The main network equipment and telephony maintenance works are as follows: administration and monitoring of systems; identification and prompt troubleshooting; adjustment, configuration and installation of new software versions; replacement of failed equipment; connecting users to corporate networks, PBX; corporate network security; information and consulting support [15]. The company is a leader in the field of femto networks (femtocells). This is a new direction in the telecommunications market. Femtocell is a low-power and miniature cellular base station designed to serve a small area - an office, a warehouse, a store, etc. For a cellular operator, the use of femtocells makes it possible to improve the coverage and capacity of the network, especially inside buildings. There is an opportunity to provide additional services at reduced prices and save on equipment. Among the unique services provided by the company for the public sector are servicing of franking and converting machines — specialized equipment for stamping envelopes. The latest services in the field of IT outsourcing are cloud technologies. The company provides a full range of services for organizing and supporting the client’s IT infrastructure based on cloud computing. MAYKOR has created a unique quality control system which can track the movement of all engineers in real time. All engineers are equipped with mobile devices having satellite way finders. Requests can be submitted through the Service Desk or a single free federal number. Information is sent to a single monitoring center. The system was created by integrating several software products of international vendors. It is unique in the Russian market. It gives us full control over works, materials, speed of service provision and production costs. Most Russian retail operators allocate a large part of their budget funds to the services provided by the outsourcing companies. Russian retail chains have realized that their revenues are directly related to the state of their IT infrastructure and finances spent on maintaining it. Therefore, they were especially interested in flexible and modern systems that are able to satisfy their needs. It can be said that trading operators prefer dealing with domestic developments and outsourcers. Their foreign competitors have not been able to take the same market positions that they have in their own countries. In addition, large foreign outsourcers consider it unprofitable to maintain systems created in Russia. Software products developed for domestic businesses are designed for the Russian local processes.

The main levels of IT outsourcing in the Russian retail sector are as follows:

1. basic services, including maintenance and repair of equipment, carrying out preventive measures;
2. after-sales servicing of CRM and ERP systems and various front-end solutions;
3. maintaining business continuity. For this, it is necessary to ensure the continuous operation of IT systems and know features of the client’s business.

The first level is most common. When choosing this level of outsourcing, an external organization provides the customer with basic services, which may include maintenance and repair of equipment and failure prevention for printing devices. Cooperation of the retailer and the outsourcer begins with this set of services. This approach allows a specialized company to demonstrate its competence, and the client to assess benefits of the proposal and make adjustments. The second level is after-sales
servicing of the information systems. The outsourcing companies are responsible for the operation of CRM and ERP systems, often simultaneously supporting other business solutions. The third level is aimed to maintain the continuity of customer’s business processes. This requires the willingness to ensure the continuous operation of the systems and understand how they function. We can conclude that retail operators in Russia are interested in creating, optimizing and maintaining health of the IT infrastructure, telecommunications and high-quality system administration. It is necessary to provide technical support for trading equipment. It is clear that domestic outsourcers, as well as their foreign colleagues, are primarily interested in large-scale contracts for the comprehensive servicing of powerful retail chains. Of course, in order to cope with such a difficult task, the outsourcer must have required resources: the appropriate technical base, the ability to use modern technology and the experience of qualified IT specialists. The use of services provided by a company specialized in this area provides the trading organization with many significant benefits. A good outsourcer always has extensive experience in conducting examinations and the knowledge base accumulated during the work. The contractor should deal with incidents and their consequences and engage in problem management. Preventive measures are especially important to maintain equipment and information systems. Based on the results of professional examinations and procedures involving the interaction with various network structures, an outsourcer identifies incidents and requests, which will help find the best ways to eliminate incidents. Another advantage is a long-term contract with an IT service provider, which implies fixed maintenance costs. Before many Russian traders said that they were not ready to entrust the support of their IT infrastructure to outside specialists. They were afraid of possible risks. In addition, the narrow specialization of some information systems became an obstacle to connecting an external organization to the service. However, outsourcing companies were searching for a special approach to potential customers, and managed to establish mutually beneficial cooperation under long-term contracts, which is shown by many trading operators.

References
[1] Gelfand A O 2015 The history of IT outsourcing Notes of the scientist 3 26–28
[2] Gribanov Yu I 2013 Improving the efficiency of system outsourcing services for IT infrastructure: Thesis: 08.00.05 (Perm) p 185
[3] Guseva E N 2015. Evaluation of the effectiveness of IT outsourcing Modern equipment and technologies 6(46) 131–135
[4] Dubitsky L G 2013 Outsourcing and quality of products and services A look at the problem Part 1 (Moscow: Academy of Standardization, Metrology and Certification) p 296
[5] Izotova Yu D 2016 IT outsourcing as an effective and economical technology New science: experience, traditions, innovations 4-1(77) 74–77
[6] Aalders R 2014 IT outsourcing. Practical guidance (Moscow: Alpina Books)
[7] Kashaevev R A 2015 The market of IT outsourcing in Russia and prospects for its development Young scientist 18 273–274
[8] Kurbanov A Kh 2014 Outsourcing: history methodology, practice monograph (Moscow: INFRA-M)
[9] Kurbanova F D 2016 IT-Outsourcing in Russia Improving accounting, analysis and control as mechanisms of information support for sustainable economic development 2 199–203
[10] Kurylenk YuV 2014 IT outsourcing as a tool to ensure global competitiveness Regional Economics and Management 2(02) 147–150
[11] Lisnevskaia OS 2016 Features of development of IT outsourcing in Russia Scientific almanac 2-1(16) 218–220
[12] Lukyanov IV 2015 IT outsourcing in Russia: problems and prospects Modern studies of social problems 4(48) 379–388
[13] Mansurova N A 2014 Analysis of the effectiveness of IT outsourcing Bulletin of TvSU. Series Economics and Management 19 129
[13] Timofeev M A 2017 Development of tools for implementing an innovative project using process control outsourcing: Thesis: 08.00.05. (Nizhny Novgorod) p 188
[14] Shalamay AV 2017 IT outsourcing: nature and development trends in Russia New science: current status and development paths 3 173–176
[15] Ergardt N O 2011 IT outsourcing as a tool to reduce the cost of information technology Bulletin of the Institute of Economics of the Russian Academy of Sciences 1 263–272