Importance of Information Technology in Reaching HR Effectiveness: Example of Local and International Banks in Russia

Elena Prosvirkina

National Research University, Higher School of Economics, 20 Myasnickaya Str., Moscow, Russian Federation, 101000

Abstract: It is often supposed that the usage of technology applications increases effectiveness. The current research is devoted to the analysis of information technology in human resource management of the Russian banking industry and its influence on the organizational performance of banks. The semi-structured interviews with HR Directors of both international and local banks were conducted to collect data on the HR technology used. To analyze HR effectiveness and organizational performance of banks, several indicators were calculated, including human capital return on investment, return on assets and return on equity. The results demonstrate that international bank has more HR technology applications, but no technology support for HR administration function. On the contrast, Russian local bank has HR administration and payroll support and no other technology applications. Human capital return on investment is higher in an international bank as well as it has higher return on assets and equity. Though, there are other factors, which influence HR effectiveness and performance of international banks, the level of HR technology development should positively influence an organization. The same view was expressed by the interviewed HR Directors.

Key words: Human resource management · Technology · Banks · Russian financial industry

INTRODUCTION

Development of technology has changed business environment dramatically. Each function in any organization is very often supported by electronic systems now and human resources management is not an exception. As Bae and Lawler [1] point out human resources (HR) systems are becoming an important source of competitive advantage and as a result demanding the adoption of technology systems in such areas as personnel selection, job design, performance appraisal, learning and development, compensation, etc.. The use of modern technology in human resource management helps business organizations to keep accurate and complete personnel information, run reports for strategic decision – making.

The current research is devoted to the analysis of HR technology in banks on the Russian market. The research is an attempt to answer a couple of questions:

- What technology applications are used by banks in Russia?
- Are there any differences in HR technology applications of international and Russian local banks?
- Are banks with the better level of HR technology more effective in human resource management?
- Can HR technology influence organizational performance of banks in Russia?

Corresponding Author: Elena Prosvirkina, National Research University, Higher School of Economics, 20 Myasnickaya Str., Moscow, Russian Federation, 101000.
The study consists of four parts. In the first part an overview of literature is presented. Secondly, the methods used will be described and explained. Third part is devoted to the analysis of the empirical results. Finally, conclusion on the importance of information technology in human resource management is made.

**Literature Review:** There are lots of researches on information technology globally. Whereas many articles in the management literature have examined different IT topics, not many of them described the usage of technology in human resources management. As the current research is aimed to study HR technology in Russian banking industry, it is necessary to review research devoted to HR technology and particularly in the banking sector.

**Technology in Human Resource Management:** It is supposed that the greater the use of specific HR practices, the better the organizational performance [2]. In order to improve HR efficiency, business organizations began to use technology. Different companies can use different technology platforms, but usually all of them are called as Human Resource Information Systems (HRIS). Such systems acquire, store, manipulate, analyze, retrieve and distribute information in the organizations about their human resources, personnel activities and organizational characteristics [3, 4]. As Kovach and Cathart [5] argue HR technology has three major functional components: input function (entering personnel information into HR database), maintenance function (adding new information and updating the database), output function (generating valuable outputs, reports).

The use of HR technology can depend on different factors: the size of organization, its age, leadership attitude towards human resources management and innovations, qualification and experience of HR Director, etc.

**Benefits of HR Technology:** Technology helps HR professionals to be more efficient, save costs and provide organization’s leadership with accurate information, which is very important for strategic and operational decision-making [6]. As Haines and Petit [7] outline HR staff relieved from many routine paper handling tasks can develop a service orientation and participate more fully in strategic decision-making.

The more mature HR system in the organization, the more it pays attention to strategic HR management and efficiency in HR operations. HR system can be more efficient if lots of operational processes are supported by information technology. Most of the HR operational process can be automated, including personnel administration, salary administration, leave and absence recording, skill inventory, medical history, performance appraisal, training and development, HR planning, negotiations, etc. [8].

One of the first empirical researches devoted to the analysis of HRIS and its influence on organization performance was conducted in early 1990s. Overman [9] done a survey and provided with the evidence that HRIS are faster in accurate information processing, improve planning and communication with employees. Later research demonstrated that HRIS help to reduce costs and number of employees by automation, support employees in controlling their own personal information and provide managers with the relevant information and data easily [10].

**HR Technology in Banking:** In developing countries the banking industry has gone from a basic process to convert manual information keeping systems into computerized systems [8]. According to the research of Al-Tarawneh and Tarawneh [11] there is significant statistical effect evidence between the quality of the outcomes of the HR information systems and the organizational performance in bank sector in Jordan.

**Methodology and Sample Description:** Literature review has demonstrated that several researches proved the positive influence of HRIS on the organizational performance. Thus, the main hypothesis of the current research is that the level of HRIS development influence HR effectiveness and performance of banks. It is also supposed that there is a difference between HRIS in international and local banks in Russia. The banking industry in Russia is quite young and the majority of banks do not exist more than twenty years on the market. This is explained by the collapse of the Soviet Union and
appearance of the Russian Federation only in early 1990s. Though Russian branches of international banks also appeared at this time in Russia, some of them can exist more than one hundred years globally and have great experience and best practices in different functions. That means international banks can have the higher level of HRIS development. There are two main hypotheses in the current study.

_Hypothesis 1:_ The level of HRIS development in Russian banking industry influences the human resource effectiveness and organizational results of banks.

_Hypothesis 2:_ The level of HRIS development in international banks is higher in comparison with the local banks in Russia.

In order to test these hypotheses two case studies were analyzed: one of the international banks in Russia and also one local bank. The main method of data collection of this research is semi-structured interviews with HR Directors of the selected banks. They agreed to participate in the survey, but asked not to mention the name of their banks in the article. Semi-structured interviews allowed collecting information about HR technology in the banks and the level of HRIS development. To analyze human resource effectiveness of each bank HC ROI (human resource return on investment) was calculated. This indicator was suggested by Fitz-enz [12], it is now often used in HR analytics, as an example, it is one of the main indicators of PwC Saratoga, which conducts HR Benchmarking survey worldwide. The formula of HC ROI is the following [12]:

\[
HC \text{ ROI} = \frac{(Revenue - (Expenses - Compensation))}{Compensation}
\]

As Bontis and Fitz-enz [13] point out HC ROI indicator is equivalent to calculating the value added of investing in the organization’s human assets. The numerator in this metric is profit adjusted for the cost of people. As this study is devoted to the analysis only of two banks, the calculated HC ROI will be compared. The higher HC ROI, the more effective human resources management in a bank. In addition to HC ROI sometimes researchers refer to other indicators, when they try to evaluate a value of human capital, for example ratio of employee expenses and headcount or ratio of revenue and headcount [14].

It is also supposed that HRIS influence HR effectiveness and this positively correlates with the organizational results of banks. For testing this hypothesis it is necessary to compare organizational performance results of the selected international and Russian banks. There are lots of different approaches, for example Fethi and Pasiouras [15] have reviewed 196 studies in assessing bank performance and found out too many approaches. Nevertheless, the common performance indicators in banking industry are return on assets and return on equity [16, 17]. These indicators are calculated based on the following formulas:

\[
ROA = \frac{Net \text{ Income}}{Average \text{ Total Assets}}
\]

(Sheng-Hung, Chien-Chang, [16])

\[
ROE = \frac{Net \text{ Income}}{Avg \text{ Stockholder's Equity}}
\]

(Pena, Villasarelo, [17])

Return on equity is a measure of profitability of stockholders' investments; it shows net income as the percentage of shareholder equity. Return on assets helps to identify how profitable a company is relative to its total assets. In the current research both ROA and ROE will be calculated.
Emperical Findings

**HR Technology in the International and Local Banks:** According to the interview with HR Director of the international bank operated in Russia human resource management plays an important role in the organization. It does not only support line managers and employees, but also interact with line managers as business advisers. Globally HR Division is divided on the centers of expertise and business partners. Centers of expertise is responsible for one human resources area, for example, graduate recruitment, experienced hiring, employee relations, training and development, etc.. HR business partners directly communicate with managers of other divisions, collect their requirements and provide with advice on personnel queries based on the discussions with centers of expertise. As the Russian office is quite small and consists of around one hundred and twenty employees, there are only four HR representatives (including HR Director): two of them are business partners and two of them are included in the center of expertise, they responsible for compliance of HR administration with the Russian legislation. Russian HR business partners interact with other global centers of expertise if they require any support on compensation and benefits, immigration queries, training and development, etc.

Lots of HR functions are automated with the use of information technology. As the interviewee noticed mostly every HR area is supported by specific technology platform. Training and development is administrated by the Learning and Educational System (LES), recruitment is supported by GRS (graduate recruitment system) and EHRS (experienced hires recruiting system), employee benefits are managed by the automated system. In addition to the mentioned information technology systems in the analyzed Russian branch of the international bank there is a database, which covers all records of employees from their recruitment till their retirement. The data covers such information as employees’ personal information, qualifications, work details, leave records, payroll information, etc.. These information technology systems are used in all locations of the international bank and developed specifically for this bank. Though the overall picture of the use of HRIS looks good in the Russian branch of the international bank, there are some problems indicated by the interviewee. Because of the global information security policy of the organization, it is not allowed to use a special HR information system for administration of paperwork required by the Russian legislation. Russian labor legislation requires arranging lots of internal orders and different forms. If this function is done manually it takes much time, thus the majority of Russian organizations have special HRIS for HR administration purposes, for example Boss Kadrovik or 1C, which also used for payroll administration. As the Russian branch of the international bank does not have such system, HR and payroll administration are managed manually. As HR Director outlined this is not efficient and requires additional headcount for HR administrator.

The interview with the HR Head of the Russian bank of the similar size demonstrated that HR team consists of three employees, including HR Director. The interviewee indicated that HR division does not participate in the development of bank’s strategy or HR strategy. The main areas covered by HR Division are HR documentation and paperwork administration according to the Russian legislation, recruitment and benefits administration. Based on this information it is supposed that in comparison with the Russian branch of the international bank, human resources management plays less important role in the Russian bank. HR representatives are responsible for operational HR processes and not act as the strategic business partners. According to HR Director this bank has only one HRIS, which is used for the payroll and arranging admin paperwork. They use 1C program for these purposes. This program is also used as the main source of information of hiring dates, job titles and employee compensation. There are no special databases for other employee data, benefits administration, training and development or recruitment. In comparison with the majority of international banks and large Russian banks, where candidates submit their application online on the bank’s website, applicants of the analyzed Russian bank have to submit their application to the email address of HR Division. This also shows the development of the human resources information systems in the Russian bank.

**HR Effectiveness and Performance of the Banks:** Based on the formulas described in the methodology, all the selected indicators of HR effectiveness, value of human capital and performance of banks were calculated. All the required data was collected on the Central Bank of the Russian Federation (CBR) website. As per legislation requirement banks operated in
Table 1: Hr Technology, Hr Effectiveness and Performance of Banks

<table>
<thead>
<tr>
<th></th>
<th>International Bank</th>
<th>Local Russian Bank</th>
</tr>
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<tbody>
<tr>
<td>Number of Employees</td>
<td>121</td>
<td>129</td>
</tr>
<tr>
<td>HR Technology</td>
<td>Specific HR technology applications developed by the bank’s headquarter</td>
<td>Russian Technology platform used by other local companies</td>
</tr>
<tr>
<td>Number of HR Technology Applications</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Number of HR Professionals</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>HC ROI *</td>
<td>1,46</td>
<td>1,21</td>
</tr>
<tr>
<td>Employee Expenses/ Headcount *</td>
<td>7499, 19</td>
<td>2223,82</td>
</tr>
<tr>
<td>Revenue/ Headcount *</td>
<td>2197,57</td>
<td>653,26</td>
</tr>
<tr>
<td>ROA *</td>
<td>3,74</td>
<td>0,97</td>
</tr>
<tr>
<td>ROE *</td>
<td>6,84</td>
<td>5,38</td>
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</table>

*The data for calculations is collected on the official website of CBR http://www.cbr.ru/

Russia have to submit financial reports to CBR. The results of the calculation as well as the summary of interviews with HR Directors of two banks are presented in the below table.

The presented data in the table demonstrates that international bank has higher human capital return on investment. HC ROI equals 1,46 means that 1 ruble invested in human capital of the bank returns 1,46 rubles. As for the Russian bank HC ROI equals only 1,21 and this indicator also shows that Russian bank is efficient, but less than the international one. The results of calculations also proved with the evidence that organizational performance of the international bank is better as it has higher values of ROA, ROE and the ration of revenue and headcount. The ratio of employee expenses and headcount shows that international bank spend more money on its employees in comparison with the Russian bank. As the level of HR technology development in international bank is higher and HR effectiveness as well as performance indicators better, there should be a correlation between HR technology and HR effectiveness.

CONCLUSION

The current research was devoted to the analysis of HR technology in the Russian banking industry. The results demonstrate that the international bank has more HR technology applications and they are developed by headquarter. The Russian bank has only payroll and HR administration technology systems, which also used by other Russian companies. It is supposed that the higher level of HR technology development is in international bank, because HR department has a strategic role rather than HR administrator role. HR system in the international bank is more mature. Based on the calculated indicators it was found out that the international bank has higher HR effectiveness and better performance results. It was supposed that the level of HR technology should positively influence performance of banks. Nevertheless, HR effectiveness can be higher because of the influence of other factors. Thus, further research with the larger sample is required. In conclusion, this research does not show a statistical evidence of the correlation between HR technology and HR effectiveness, but it can be a good basis for further study of this topic in Russia.

REFERENCES