The Importance of Human Capital as a Strategic Management Factor in the Banking Sector of the Republic of Serbia

Goran Pavlović¹
Srdjan Milićević²

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Abstract: Resources that are rare, valuable, difficult to imitate and substitute are a key factor of competitive advantage. Human capital, which includes unique knowledge, skills, abilities and employee experiences, is one of the most important resources of modern organizations and a key constituent of intellectual capital. Because the competition in the banking sector of the Republic of Serbia is increasingly pronounced, as evidenced by the trend of frequent mergers and acquisitions of banks, it is clear that human capital is of particular importance, due to the fact that the performance of banking operations requires unique knowledge and competencies, as well as agility and willingness of employees to continuously learn and develop. Banks treat investment in human capital as a strategic process that can provide long-term benefits and sustainable competitive advantage, especially when it comes to financial performance. Therefore, creating a competitive advantage for banks requires a strategic approach to human resource management, which will enable the development, improvement and use of human capital. Taking into account the above, the main goal of this paper is to examine the importance of human capital, as a strategic factor, for bank performances in the Republic of Serbia.

1. INTRODUCTION

With the opening of the market in the transition process of the Serbian economy, an increased inflow of foreign direct investments began to be realized. The financial sector of the Republic of Serbia, and certainly the banking sector, was financed to a significant extent by foreign capital, which led to an increase in the number of banks in the Republic of Serbia (Stojadinović Jovanović, 2013). As a result, the Serbian financial market became bank-centric (Živković & Vojinović, 2017). According to the latest report on the banking sector in Serbia, the National Bank of Serbia states that 23,087 employees worked in the banking sector at the end of 2019. In the aforementioned report, it is highlighted that the total net assets amount to 4,084.1 billion dinars, which is an increase of 2.6% compared to the period a year earlier. When it comes to profitability, the report of the National Bank of Serbia states that the banking sector in Serbia achieved a total Net income before tax of 67.7 billion dinars, with an average ROA of 1.72%, while ROE is 9.72% (Narodna banka Srbije, 2020).

Intellectual resources are the most important factors in the achieved performance. In a knowledge-based economy, needed resources must be rare, valuable and difficult to imitate (Soeawarno & Tjahjadi, 2020). As such, those resources will lead to a sustainable competitive advantage (Barney, 1991). Although different forms of intellectual capital have great strategic importance, human capital must be singled out for its value and specificity, which includes tacit knowledge, skills and abilities that competitors cannot copy (Peković et al., 2020).
capital, human capital is one of the most important determinants that affect the financial performance of banks and as such can provide banks with a competitive advantage in the financial market (Bontis et al., 2013; Liu et al., 2021; Ousama et al., 2019). Taking into account the above, the main goal of this paper is to examine the importance of human capital as a strategic factor, for bank performances in the Republic of Serbia.

2. LITERATURE REVIEW

Competitive advantage is one of the most frequently emphasized factors of economic growth and development, which is studied both in macroeconomic and microeconomic theory. It is about the ability of participants in the business market to achieve success because of the accumulated knowledge and abilities in the delivery of products and services (Miličević et al., 2017). The four pillars of the knowledge economy that influence the increase in competitiveness on the global market are (Chen & Dahlman, 2005):

1. An economic incentive and an institutional regime that ensures good economic policies and institutions that enable efficient mobilization and allocation of resources and stimulate creativity and incentives for efficient creation, dissemination and use of existing knowledge.
2. Educated and skilled workers who can continuously develop and adapt their skills to effectively create and use knowledge.
3. An effective innovation system in enterprises, research centers, universities, consulting agencies and other organizations that can follow the knowledge revolution and take advantage of the increasing knowledge and adopt and adapt it to local needs.
4. Modern and adequate information infrastructure that can facilitate effective communication, dissemination and processing of information and knowledge.

The transition from a physically based economy to a knowledge-based economy initiated the need to use resources that are rare and valuable and that cannot be imitated in creating a competitive advantage, such as intellectual capital (Ousama et al., 2019). As one of the most important elements of intellectual capital, human capital enables the creation of added value and competitive advantage of the organization, because it is about the special knowledge, skills, creativity and experience of employees (Pavlović, 2018). According to Bontis (2001), human capital includes innovation, and agility of employees, but also organizational values and culture, where the central characteristics of such a culture must be continuous learning and knowledge sharing. Because of the above, human capital requires a special human resources management practice, which includes a strategic approach to employee development, training, developing flexibility, agility and knowledge management of employees (Yilmaz & Acar, 2018).

Human capital plays a particularly important role in banking. Measured as the average number of years spent in acquiring financial knowledge, human capital can increase a bank’s level of competitiveness (Liu et al., 2021). A bank with high human capital has employees who are constantly learning, developing knowledge, possess leadership skills, have relevant communication skills, and are creative and innovative, as a result of which they provide services that have as an implication satisfied banking clients (Kovjanić & Vukadinović, 2021). As such, human capital necessarily has a positive impact on the achieved performances (Pavlović, 2018; Yilmaz & Acar, 2018). Human capital is undoubtedly of great importance for banking performance since knowledge is the most important element of banks’ assets in the financial market. The realization of added value and competitive advantage in banking is achieved in the relationship between employees and
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bank clients, and the quality of interaction itself depends on the emotional intelligence, creativity, agility and knowledge of employees (Peković et al., 2020). In order to confirm the stated claims, numerous studies were conducted in which the authors examined the influence of intellectual capital and its components on the performance of banks. Given that competitive advantage is a multidimensional construct (Milićević et al., 2017), precisely measuring the influence of human capital, as a strategic resource and the most important element of intellectual capital, on the financial performance of banks can be a way of determining the competitiveness of the banks themselves. Considering the above, various research in the world shows the positive influence of human capital on the financial performance of banks (Buallay et al., 2019; Ousama et al., 2019; Soeawarno & Tjahjadi, 2020). The aforementioned researches also exist in the Republic of Serbia, but they are still deficient. These are mainly studies that monitor the impact of intellectual capital on financial performance, where the impact of human, structural and relational capital is particularly monitored. Such studies also confirm the positive impact of human capital on financial performance (Bontis et al., 2013; Peković et al., 2020). Taking into account the mentioned studies and research results, the following research hypotheses can be defined:

**H1:** There is a statistically significant and positive impact of banks' human capital on banks' Return on Assets (ROA).

**H2:** There is a statistically significant and positive impact of banks' human capital on banks' Return on Equity (ROE).

**H3:** There is a statistically significant and positive impact of banks' human capital on banks' Net profit margin (NPM).

**3. RESEARCH METHODOLOGY**

In the latest report of the National Bank of Serbia on the banking sector, it is stated that 26 banks are operating in the financial market of the Republic of Serbia (Narodna banka Srbije, 2020). However, the development of the banking sector in the Republic of Serbia, as well as the importance of banks on the financial market, have led to significant status changes in the past three years, i.e. mergers and acquisitions of banks (Stojmenović, 2021). To strengthen intellectual resources and improve human capital, banks started integrating their assets, which once again shows the importance of these resources in creating a competitive advantage. Following the mentioned changes, and taking into account the moment when the research in this study was carried out, the total number of banks operating on the financial market of the Republic of Serbia was 21.

In order to test the set research hypotheses, the sample was formed from all banks operating in the financial market of the Republic of Serbia in the first half of 2023 (21 banks). The independent variable in the research is represented by human capital, which was measured using the VAIC methodology. The dependent variable is financial performance and this variable is operationalized through three indicators: ROA, ROE and NPM. To achieve an objective insight into the impact of human capital on financial performance, the period of the analysis includes 2019, 2020, and 2021 (2021 is the final year for which the financial reports of all banks in the Republic of Serbia are available).

When it comes to human capital, the measurement was performed using the VAIC methodology, which involves several steps in determining human capital. Since it is an indicator that measures
the intellectual capital of organizations, in the first step it is necessary to determine the value added (VA) as the difference between total revenues (OUT) and total costs (IN), whereby wages are subtracted from total costs. The reason is that the wages must not be treated as an expense, but as an investment in employees that will provide long-term value. In the second step, the determined value added (VA) is divided by the wages, and in this way the human capital efficiency (HCE) indicator is calculated (Pulić, 2000). ROA is calculated in the model as the ratio of Net profit to total assets; ROE is the ratio of Net profit to invested capital; NPM is the ratio of Net profit and total income of banks.

4. EMPIRICAL RESULTS

Descriptive statistics. The initial step in the statistical analysis involves the application of a descriptive statistical analysis of banks in the Republic of Serbia (Table 1).

![Table 1. Descriptive statistics](source)

<table>
<thead>
<tr>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>St. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCE</td>
<td>-1.72</td>
<td>6.91</td>
<td>0.4947</td>
</tr>
<tr>
<td>ROA</td>
<td>-3.99</td>
<td>4.17</td>
<td>0.3344</td>
</tr>
<tr>
<td>ROE</td>
<td>-9.46</td>
<td>36.04</td>
<td>8.5465</td>
</tr>
<tr>
<td>NPM</td>
<td>-171.51</td>
<td>78.63</td>
<td>3.6586</td>
</tr>
</tbody>
</table>

Source: Authors

The observed banks in the Republic of Serbia realize a positive value of human capital, as well as positive financial performance. Before conducting the correlation analysis, it is necessary to determine whether the collected data follows a normal distribution (Table 2).

![Table 2. Kolmogorov-Smirnov and Shapiro-Wilk tests of normality](source)

<table>
<thead>
<tr>
<th>Kolmogorov-Smirnov*</th>
<th>Statistics</th>
<th>df</th>
<th>Sig.</th>
<th>Shapiro-Wilk</th>
<th>Statistics</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCE</td>
<td>0.171</td>
<td>66</td>
<td>0.000</td>
<td>0.826</td>
<td>66</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>0.228</td>
<td>66</td>
<td>0.000</td>
<td>0.908</td>
<td>66</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>0.095</td>
<td>66</td>
<td>0.200*</td>
<td>0.958</td>
<td>66</td>
<td>0.024</td>
<td></td>
</tr>
<tr>
<td>NPM</td>
<td>0.285</td>
<td>66</td>
<td>0.000</td>
<td>0.772</td>
<td>66</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

* This is a lower bound of the true significance; a - Lilliefors Significant Correction

Source: Authors

Kolmogorov-Smirnov and Shapiro-Wilk tests of normality show that the only variable with a normal distribution is ROE. Considering the statistical significance of the results of the other variables, it is necessary to apply non-parametric tests in the continuation of the analysis. When it comes to correlation, it is necessary to apply Spearman's correlation analysis.

Correlation analysis. The results of Spearman's correlation analysis are presented in Table 3.

![Table 3. Correlation analysis](source)

<table>
<thead>
<tr>
<th></th>
<th>HCE</th>
<th>ROA</th>
<th>ROE</th>
<th>NPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCE</td>
<td>1</td>
<td>0.729**</td>
<td>0.656**</td>
<td>0.695**</td>
</tr>
<tr>
<td>ROA</td>
<td>0.729**</td>
<td>1</td>
<td>0.948**</td>
<td>0.951**</td>
</tr>
<tr>
<td>ROE</td>
<td>0.656**</td>
<td>0.948**</td>
<td>1</td>
<td>0.945**</td>
</tr>
<tr>
<td>NPM</td>
<td>0.695**</td>
<td>0.951**</td>
<td>0.945**</td>
<td>1</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.01 level (2-tailed)

Source: Authors
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Leaving aside the mutual correlation of the indicator that constitutes the dependent variable, results show that between human capital (HCE) on the one side and ROA, ROE, and NPM on the other side, a high direct correlation was achieved. The highest correlation exists between HCE and ROA (0.729). To examine the nature of the correlation between human capital and financial performance, a regression analysis was conducted in the next step.

Regression analysis. Since the regression model involves examining the impact of one independent variable (HCE) on financial performance, it is necessary to apply a simple linear regression analysis (Table 4).

<table>
<thead>
<tr>
<th>Regression model</th>
<th>R²</th>
<th>β</th>
<th>t</th>
<th>Sig.</th>
<th>Durbin Watson</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCE → ROA</td>
<td>0.403</td>
<td>0.635</td>
<td>6,571</td>
<td>0.000</td>
<td>1,742</td>
<td>1,000</td>
</tr>
<tr>
<td>HCE → ROE</td>
<td>0.432</td>
<td>0.657</td>
<td>6,972</td>
<td>0.000</td>
<td>2,105</td>
<td>1,000</td>
</tr>
<tr>
<td>HCE → NPM</td>
<td>0.263</td>
<td>0.513</td>
<td>4,781</td>
<td>0.000</td>
<td>1,871</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Source: Authors

A Variance inflation factor (VIF) must be less than 5 to conclude the absence of multicollinearity (Field, 2000). In the observed models, the VIF factor is lower than 5, and as such points to the absence of multicollinearity. The results of the regression analysis show that human capital has a statistically significant impact on financial performance, as a result of which all three research hypotheses (H1, H2, H3) can be accepted. When it comes to the impact of HCE on ROA, the coefficient of determination (R²) is 0.403, which means that human capital describes 40.3% of the variability of the ROA. In the second model (the influence of HCE on ROE), R² is 0.432, so human capital describes 43.2% of the variability of the ROE, which is an even more significant influence of the independent variable. Finally, in the model of the impact of HCE on NPM the lowest R² is achieved, but the impact is still statistically significant. Human capital describes 26.3% of the NPM of banks in the Republic of Serbia. The Durbin Watson test was applied to determine the presence of autocorrelation, where the value must be close to 2 to state the absence of autocorrelation (Bontis et al., 2013). According to the results in Table 4, only in the model in which the impact of HCE on ROE is monitored, there is a relatively higher value of the Durbin Watson test (2.105), which shows the slight presence of autocorrelation, as a result of which this model is less reliable than others.

5. DISCUSSION AND CONCLUSION

Human capital includes knowledge, skills and abilities, as well as employees' experiences, creativity, innovation, and willingness to learn and share knowledge. Bearing in mind that knowledge is one of the key success factors of banks, it can be assumed how important human capital can be for creating good performance and competitive advantage.

Following the objective of this study, research was conducted on the influence of human capital on the financial performance of banks in the Republic of Serbia. The stated financial performance is monitored through ROA, ROE and NPM. The results of the study showed that human capital has a statistically significant impact on ROA, ROE and NPM, thus confirming all the research hypotheses defined in the paper. Accordingly, it can be concluded that human capital is a relevant strategic resource, based on the competencies, emotional intelligence, agility and
knowledge of employees, which as such significantly determines the achieved performance, as well as the competitive advantage of banks in the Republic of Serbia. The high degree of correlation between human capital and financial performance is a recommendation to human resource managers in banks to increase investment in employees, especially in development, training, education and knowledge creation. Since employees are intangible and the most important element of the total assets of banks, investing in human capital is also investing in banking assets, whereby a positive return is realized on such investments, which is exactly what the results of this research show. Thanks to their competences, bank employees ensure a higher level of client satisfaction, but also find innovative and creative solutions, which reflect positively on the invested capital, including the banks’ capital. As a result, there is an increase in the final profit, i.e. the profit after taxation.

From a theoretical point of view, the results of the research contribute to the existing scientific knowledge about the influence of human capital on the performance and competitiveness of banks, but at the same time create a basis for future research, bearing in mind the deficit of studies that exclusively examine the influence of human capital on banking performance in the Republic of Serbia. The practical contribution is reflected in the presentation of the obtained research results primarily to human resource managers in banks, who by investing in the development of human capital develop human capital, thus improving the performance and strategic advantage of banks. The limitations of the work are also guidelines for future research. In this paper, the period of the analysis of the impact of human capital on financial performance covers three years. In subsequent research, it is necessary to increase the time interval. Within the time series, there is also a year when due to the effects of the COVID-19 pandemic, a significant number of banks achieved lower or negative financial results, which can destructure the model. Consequently, it is necessary to possibly exclude that period in future research or to analyze it separately.

References


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