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## INFLUENCE OF HUMAN CAPITAL ON COMPANY PERFORMANCE

### Abstract

*The modern business environment is characterized by the emergence of innovative ways of doing business that are based on new technologies and knowledge. Society is becoming a knowledge society, and companies are beginning to use knowledge resources more and more intensively through human capital. In knowledge-based societies, investing in human capital through education has become a necessary condition for reflecting and increasing the competitiveness of companies. Human capital creates value in a company, but it cannot be created without employees, because human capital is their property. For the successful realization of performance in the company, only competition is not enough, but dedication to the goals is necessary. The work aims to express the importance of human capital for the company and its performance through an analysis of the importance and management of human capital.*

**Keywords:** human capital, investment, enterprise, competitiveness, performance.

**JEL classification:** J24, L25

## УТИЦАЈ ЉУДСКОГ КАПИТАЛА НА ПЕРФОРМАНСЕ ПРЕДУЗЕЋА

### Апстракт

*Савремено пословно окружење, карактерише појава иновативних начина пословања која су базирана на новим технологијама и знању. Друштво постаје друштво знања, а предузећа почњу све интензивније да користе ресурс знања кроз хумани капитал. У друштвима која се заснивају на знању, улагање у хумани капитал кроз образовање постали су неопходан услов за одражавање и увећање конкурентности предузећа. Хумани капитал ствара вредност у предузећу, али се та вредност не може створити без запослених, јер је хумани капитал њихово власништво. За успешно остваривање перформасни*

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*у предузећу нису довољне само компетенције, већ је неопходна посвећеност циљевима. Рад има за циљ да кроз анализу значаја и управљања хуманим капиталом искаже његову важност за предузеће и његове перформанце.*

**Кључне речи:** хумани капитал, улагање, предузеће, конкурентност, перформансе.

## Introduction

Effective use of intangible resources, including human capital, forms the backbone of achieving a competitive advantage for companies operating in the knowledge-based economy. As an integral part of intellectual capital, human capital consists of employees' knowledge and skills, talents, creativity, enthusiasm, and learning ability.

Every company needs to have employees who possess unique human capital, which is reflected in the specific competencies, knowledge, and abilities of employees. The key factor in the success of modern companies is the employees. Human capital as a component of intellectual capital is characteristic of employees, where with the ability to learn, teamwork, flexibility, and commitment to the company, performance is achieved and competitive advantage is reflected. "Human capital, which represents one of the most important and integral components of the intellectual capital and intangible assets of the company, can be defined as a combination of knowledge, skills, experience, ability, and innovation of employees to perform tasks in the company". (Bonits, 2001)

In the era of knowledge-based business, resources that do not have a physical form are the backbone of success and progress. Intangible resources do not have a physical essence but include specific knowledge, patents, knowledge of consumer needs, organizational culture, and other factors that can lead to business success. "The set of knowledge, skills, experience, creativity, and innovation of employees represents human capital." The main carriers of the so-called human capital are employees, who, by implementing specific competencies, enable the creation of company value and the achievement of a sustainable competitive advantage". (Ghorbanhosseini, 2013)

The goal of every organization is to create as much added value as possible with existing capacities and assets. Human capital is largely determined by the knowledge and skills of employees, who can transfer them into value. A very important segment for a successful reduction business is the operational skills that employees must possess. However, possessing relevant operational skills is not enough in itself, because it is very important that employees who are an integral element of human capital also possess certain personal qualities such as endurance, dedication, and motivation.

## The importance of human capital for a company

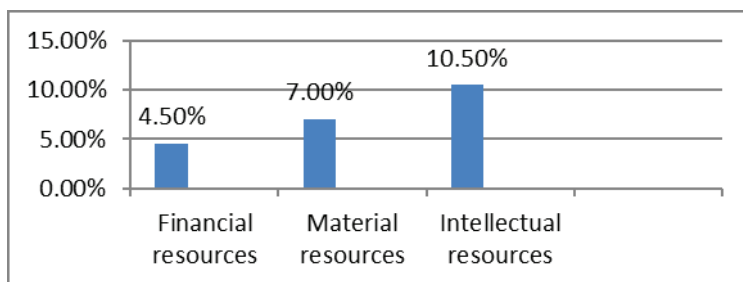
The modern economy is a knowledge economy, which experienced its development through the process of globalization and technological development. In such an economy, new companies appear that are focused on gathering, creating, and

using knowledge to survive in a dynamic market. “Companies are forced to adjust their asset structure due to technical progress and intense competition in modern business conditions.” (Prdić, N., 2017) The use and improvement of the company’s intellectual resources become necessary because the creation of economic value is based on the use of intangible resources.

Human capital is an integral part of intellectual capital, in addition to structural and relational intellectual capital. The existence of human capital in a company implies, first of all, the identification of human capital as an integral part of intellectual capital. According to Rossi, human capital as a building block of intellectual capital is considered a key driver of value creation in a company. “Also, this part of intellectual capital represents the main pillar of innovative business strategies of economic entities”. (Tseng, C.-Y., & Goo, Y.-J.J, 2005)

Successful management of human resources not only brings benefit to the individual who owns intellectual capital, income to the company where that individual works, and to the country but also to the whole world through intellectual innovation and transformation of people. (Anghel, 2008) In addition, Lev (2000) found that there is a difference in the rates of return on investments in financial, material, and intellectual resources of the company, which is shown in graph number 1.

**Graph No. 1: Rate of return on investment in acquisition resources**



*Source: Lev (2000), adapted from Anghel (2008)*

Within economic growth theories, human capital is seen as one of the production factors that influence economic growth, along with land, labor, and physical capital. “As such a resource, human capital records a downward trend due to the increase in unemployment, poor attitude of entrepreneurs and negative demographic trends”. (Đekić, 2015). To effectively manage human capital, it is first necessary to determine its economic value. As the most important asset of a company in the knowledge economy, the value of human capital cannot be seen in the balance sheet, because reporting on human capital as an asset of the company has not yet been developed. Companies can use non-standard supplementary financial measures to report on human capital to stakeholders inside and outside the company. “The book value of human capital represents the historical cost of human capital as an asset based on the price paid. The market value of human capital includes the current price at which human capital can be sold, and often the market value does not coincide with the fair value”. (Alkhimenko, 2014)

As a particularly useful benchmark, the so-called VAIC model (Value Added Intellectual Coefficient). According to the mentioned model, value added (VA) is obtained when total costs (IN) are subtracted from sales revenue (OUT), except for those costs related to employee wages, which are not treated as an expense but as an investment in human capital. (Merriman, 2017) The model can be expressed quantitatively as follows:

$$VA=OUT-IN$$

Human capital (HCA), which can be quantitatively determined when the previously determined added value (VA) is divided by the total wages paid to employees in one year (HC), which can be quantitatively represented: (Pulić, 2000)

$$HCE=VA/HC$$

In order to operate sustainably, businesses must maintain a competitive advantage through constant innovation. Also, an important factor in the competitive advantage of companies in the knowledge economy is learning and knowledge. Petty and Guthrie (2000), believe that the factors that generate company value are the competitive advantage of the company itself. Therefore, the development of specific competencies is a source of sustainable competitive advantage.

The importance of human capital is reflected in the fact that it provides a return on invested capital since its creation implies certain expenses of the company, which must be seen as an investment and not as an expense. That is why it is important to find such measures of human capital that will take into account the value that must be realized to ensure a sustainable competitive advantage. Since human and other intellectual resources represent a key determinant of the success of a company in the modern environment, there is a problem of accurate and reliable financial valuation and inclusion of these resources through the balance sheet. Financial criteria prevail or are exclusively present in reports on the success of most companies' operations. Therefore, reports on the operations of companies dominated by intellectual resources should be supplemented with information on non-financial performance measures, because the existing traditional financial reports are largely outdated and insufficient.

## **Human capital management**

During the formation of human capital, an extremely important issue is to organize a set of human capital management activities in the organization. The primary activity is the provision of the basis for the creation of human capital, as well as the selection of employees, which defines clear criteria for the selection of candidates who have passed specific registration and testing. "The most important resource of the modern economy is knowledge. So, in the past two decades, the concept of knowledge management has gained importance and is recognized as the main factor in the modernization of business". (Milojević, Savićević, Dimitrijević, 2023).

In addition to careful registration, selection, and education of employees, a strategic approach is also needed in defining compositional systems with incentives for employee motivation. Activities useful for the formation and management of human capital include:

- Open and active communication between employees at all levels;
- Formation of cross-functional teams, which, in addition to knowledge for performing their work, acquire knowledge from other functions in the organization;
- Ensuring a balance between the employee's private life and work, by providing flexible free time, the possibility of being absent due to personal obligations, and the like. (Luthans, 2004)

The basic components of human capital are knowledge, competencies, and talents. To develop, it is necessary to manage them and to manage, it is necessary to define strategies and implement them. The knowledge management strategy should be based on knowledge analysis, which identifies deviations or differences between existing and required knowledge. Competence management ensures the development of employees through adaptation to the challenges that arise in the environment. Through the competence management process, performances are managed and deficiencies that limit development are recognized. An increasingly important topic when it comes to human capital management is talent management because it constitutes a company's competitive advantage.

**Table No. 1: Model of three stages of human resource management**

Phase	Human resource management activities
Pre-combination	Dissemination of knowledge, determination of leaders who will manage the change process, careful assessment of human resources, assessment of organizational culture, creation of knowledge exchange practices.
Combining	Creating a new strategy and practice of human resources management, employee motivation, change management, communication, establishing a new culture, formulating a strategy for reducing employees.
Consolidation	Assessment of new practice and strategy of human resources management, assessment of new organizational culture, creation and exchange of knowledge, knowledge management.

Source: Schuler R., u Jackson, S., (2001). *HR issues and activities in mergers and acquisitions. European Management Journal*, 19(3), cmp. 243-249.

The human resources management process involves certain activities to ensure a unique flow of information, processes, and activities. Enterprises should effectively provide and direct it based on a systematic assessment of the performance of the use of intellectual resources and the quantification of intellectual capital. Based on these measurements, assessments, and analyses, it is necessary to create a report on the evaluation of intellectual performance. "Efficiency in knowledge management largely depends on the successful application of modern information and communication technologies." (Erceg, Zoranović, 2022)

Intellectual capital is one of the most important drivers of increasing value in a company, so the following table shows the difference between tangible and intangible assets from the point of view of valuation and reporting.

**Table No2: Valuation and reporting related to tangible and intangible assets**

Valuation of tangible assets	Valuation of intangible assets
Event record	Process record
Just the past	Past + future
Costs	Value
Monetary effects	Non-monetary effects
Periodic reports	Current reporting
Statutory financial statements	Managerial reports

Source: Đuričin, D., Janošević, S., & Kaličanin, Đ. (2012). *Menadžment i strategija*. Beograd: Centar za izdavačku delatnost Ekonomskog fakulteta u Beogradu

The main element of human capital is education, which refers to investments and production effects that are measured and expressed in monetary units. “At the micro level, research shows that education and literacy affect variations in earnings. The non-economic consequences of human capital show that a higher level of education has a positive effect on human health, on the reduction of the crime rate as well as on the intensity of social and political participation”. (Đorđević, Cvetković, Momčilović, 2021)

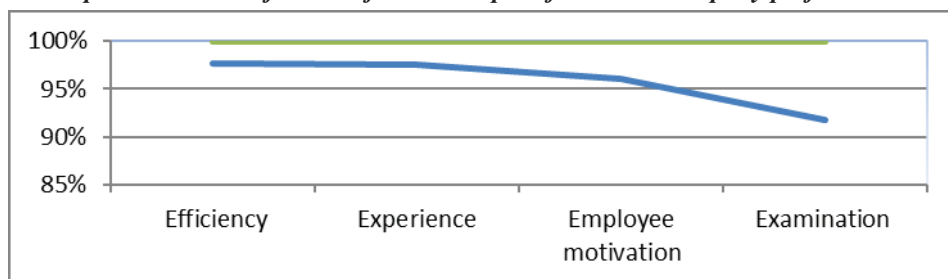
The problem of efficient and effective management of human capital, i.e. intellectual performance is accentuated because of the complex cause-and-effect relationships (connections) between parts of human capital. Therefore, a careful analysis of intellectual capital can reveal the interdependence of its influential elements through the management of knowledge, innovation, and intellectual property.

## Intellectual performance of enterprises

The concept of intellectual performance includes two dimensions, namely, the performance of non-intellectual resources, as well as the performance of the use of intellectual resources. “The performance of intellectual resources is their characteristics, whether of a strategic or operational nature.” The performance of the use of intellectual resources is the effects - the results of their use, effectiveness, and efficiency. For a company, for example, it is important how many experts, especially professionals, it has and what kind of knowledge and competence profile they have, but what effects they achieve in their work is much more relevant. In the research and development of the company, the competence portfolio of the employees is important, but even more important is the performance - innovative output and productivity. In the case of intellectual property, on the other hand, the number of registered patents is valuable as a performance of these resources, but much more important is the performance of use, such as the number of new products based on patented technologies or revenues generated from licenses for patented technologies. (Krstić, 2009)

To define the performance criteria of intellectual resources, the experiences of other companies, especially successful ones, can be used. Performance measures can be qualitative measures (image) and quantitative non-financial measures (level of employee qualification). What is important to note is that it is not possible to form a single list of intellectual resource performance benchmarks, due to the difference in size, number of employees, and activities between the companies themselves.

**Graph No. 2: The influence of human capital factors on company performance**



Source:., Editing by the author according to Štebih, S., *Uticaj lidersta na razvoj intelektualnog kapitala u savremenim orgabizacijama*, Univerzitet Singidunum.

The graphic display shows the key factors of human capital, which have the greatest influence on business results and success in companies. The obtained data are the result of a survey conducted in the Republic of Serbia. In the first place in terms of its influence on the company's performance, the efficiency of employees stands out, followed by experience, motivation, and, finally, expert knowledge. Highlighting the efficiency of employees shows that the management directs responsibility to all individuals in the company, emphasizing that this factor of human capital is the most influential. The encouraging fact is that employee motivation is an influential factor, which indicates the existence of awareness of the importance of employee motivation itself as a powerful tool for regulating relationships and achieving goals in the company.

Intellectual resources must be continuously improved, developed, and increased because competitive advantage depends on their characteristics (performance). Namely, how many barriers a company can create for its rivals in terms of benefits depends on the uniqueness of these resources and capabilities developed based on them and their differentiation from the intellectual resources and capabilities of competitors. Of the total package of benefits it provides to clients. Competitive advantage, here, is derived directly from the performance of intellectual resources and the performance of their productive use, which is reflected through the growth of production and service potential and the development of the company. Intellectual resources, knowledge in the broadest sense, are contained in new products/services that provide desired benefits for consumers. Companies compete based on the differentiation of products and services - quality, reliability, efficiency, ease of use, aesthetic feeling, costs, etc. The combination of these and other product features, which make it more valuable and superior to competitors, creates a relative advantage over rival companies. That advantage, in the end, is affected by a better strategic position and then a higher market value.



## Conclusion

The development and generation of human capital is realized through the synergy of several factors, which carry out the transmission of formal and informal knowledge, which further affects the very development of the company in which the workforce exists. Increasing the competitiveness of the organization is conditioned by the knowledge and skills of the employees, representing the primary benefit that comes with the development of human capital. It is precisely this immeasurable value of human capital that influences the creation of additional value through the increase and growth of performance.

In the future, companies will differ in whether and how much they invest in human capital. Given that human capital ensures better market positioning and represents a key determinant of the success of realizing competitiveness, it is necessary to manage this resource. Competent individuals are the most important asset of the company and their knowledge and abilities should be transformed into collective knowledge that remains in the permanent ownership of the company as structural capital. The knowledge economy is based on the human mind, that is, ideas, so companies face the challenges of how to motivate individuals to use their minds in creating value for both the company itself and the entire economy.

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