

# PERFORMANCE ANALYSIS OF VIRTUAL EMPLOYEES IN AGILE TYPE HUMAN RESOURCE MANAGEMENT USING MANAGEMENT DEEP LEARNING MODEL

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## Abstract

*An increasing number of companies are looking to reassignment management of their HR systems. Emphasis on HRM has now shifted to the key use of workforce and the measurable effect of delegation programs on the business. Successful organizations these days must be versatile, flexible, customer focused and agile to change trends. The credibility of HRM within such a domain is imperative to business achievement. HR professionals create frameworks for execution progression, career development planning and workforce development. In this paper, the performance of virtual employees is evaluated with the help of management deep learning model. It keeps individuals excited, happy, truly engaged and adds to organizational achievement. Apart from HR expertise, it also helps to develop a corporate culture and atmosphere in which employees have the ability, concern and commitment to serve customers well. Human resource management is a knowledge system related to the goal-organized impact on people involved in labor activities to ensure the effective functioning of the organization to meet the needs and interests of employees and work groups.*

## Keywords:

*Companies, Reassignment Management, HR System, HRM, Management, Deep Learning, Knowledge System*

## 1. INTRODUCTION

The 21<sup>st</sup> first century presents new challenges to humanity. New technologies, changes in consumer demand, the transition of the economies of most countries to activities in the service sector, the “shrinking” of the world due to the emergence of new means of communication - all this changes our world, including the sphere of business [1-2]. Therefore, if earlier the main emphasis was on the use of technological base and low-skilled workers, today, with the development of innovative technologies, resources have become the main task of an entrepreneur [3]. Experience is the best approach to getting used to a particular area back in front, but going for the right HR course will give you the best starting point in your future endeavors [4]. It is very important to choose a program that is balanced with current trends in HR management. Otherwise, you may pick up information that is not relevant to the current business situation [5]. Griffith College has developed a HR course to provide members with appropriate attitudes and information [6]. It is appropriate for individuals who wish to pursue a career in HRM, and for recently awarded executives or board leaders [7]. It will be introduced to key HRM concepts and these will provide an applied and practical level for less learning [8]. It will be asked to gain your own understanding as this will help you develop a clear understanding of HRM [9]. This was an incredible way to expand your understanding of the human brain and behavior [10]. Late positive psychology is especially important in a workplace [11]. In the current financial climate, many workers find it difficult to overcome their fear of layoffs and perform at a very large scale

for drawn-out deadlines [12]. In these ways they guarantee the favorable position of the business that they can satisfactorily deal with the wishes of their representative, and create an increasingly positive position at work in developing worker commitment that ultimately guarantees all degrees of association [13].

Personal human capital is general and specialized knowledge, professional skills accumulated by a person throughout his life, which gives him the opportunity to receive additional income and other advantages of life in comparison with a person who does not have this provision [14]; The human capital of the company (Corporate Human Capital) is the individual human energy accumulated by the company, innovation ability, knowledge, management, information technologies [15]. Everything that increases the company's competitiveness in the market; National human capital is a country's human capital, which includes, in part, its national wealth and intellectual strengths, national competitive advantages [16]. The introduction of the concept of “human capital” led to many attempts to assess its level and measure economic performance. The concept of “human capital” assumes that the salary of an employee with a certain level of education consists of two parts: one is what he would have received if he had no education level, and the second is the return on educational investments [17]. If 30 is the salary of a person with zero education, K and N - the amount of investments in human capital is B years and 3 is the salary of a person with B years of education, then: By analogy with the rate of return, the rate of return on human capital is also considered, and the choice of level and type of education is interpreted as an investment decision. As a result, Western economists believe that with the development of scientific and technological progress, labor resources will become capital along with the means of production. Employees are owners of human capital; they have skills that have economic value. Economic evaluation of the effectiveness of investments in human capital includes measuring the professional value of an employee, his skills, abilities and the importance of experience to the organization. Obviously, this value is not constant, it increases as a person acquires new knowledge and professional experience and decreases as a result of the physical and moral decline of human capital. It should be noted that human capital itself is subject to moral deterioration and its bearer is subject to physical deterioration [18].

Physical decline of human capital is caused by age-related decline in human performance, decline in his health. A decrease in productivity is associated with a decrease in motivation of the subject, a decrease in interest in work, manifestations of burnout syndrome and professional distortions. The moral deterioration of human capital is caused by scientific and technological progress, which leads to new equipment, technologies, equipment, products and the removal of obsolete products from production, which leads to the devaluation of previous knowledge and skills. The result of these processes is forced structural unemployment. The physical and moral degradation of human capital is an inevitable

process, but at the same time predictable. Therefore, the main direction of reproduction of human capital at the present time is the advanced training and retraining of workers. Implementation of additional programs Vocational education... Investment, innovation and competition are drivers of human capital development. The main sources of human capital accumulation are the innovative sector of the economy and the creative elites of society. At the same time, accumulated human capital underpins the innovative economic structure of the region, state, and society as a whole.

## 2. LITERATURE REVIEW

Employees of the company include all employees who are engaged in labor activities, as well as those who are on the staff (on the balance sheet of the organization or company), but temporarily do not work due to illness, vacation, etc [1]. Therefore, employees are the personnel at the disposal of the organization, necessary to achieve the goals and objectives and to perform certain functions. The concept of “employee” is broader than “employee”. The main feature of the employee is the existence of his labor relationship with the employer. Usually, these relationships are formalized by an employment contract, although the option of not having a formal legal record of employment is possible [2]. In this case, employees lose guarantees of compliance with labor law regulations. Another characteristic of employees is the possession of certain qualitative characteristics, which determines the structure of the company’s personnel by categories: managers, specialists, workers. Workforce categories are structured by occupations, specialties, and qualifications. Employment terms and quality characteristics determine the employee’s position in the organizational structure [4].

In modern economics, labor resources are increasingly viewed as human capital. To transform labor resources into human capital, it is necessary to create conditions that provide an opportunity to realize human potential in the results of the company’s operations [5]. The concepts of “human capital” and “labor resources” refer to one thing - the productive person, the productive force of an individual society and the substance of productive relations [7]. Human resource management is responsible for creating efficient teams, working to achieve the company’s goals and satisfy the interests of the employees, providing the required quantity and quality of employees at the right time, its effective placement, organization, motivation and utilization [11].

## 3. PROPOSED MODEL

Human resource management is the function of the company’s employees, the purpose of which is to provide the company with highly qualified and reliable employees who fully meet the needs of the company and work for its benefit. HR management system (in foreign sources - HR) refers to the development and implementation of a specific HR policy with the following features shown in Fig.1.

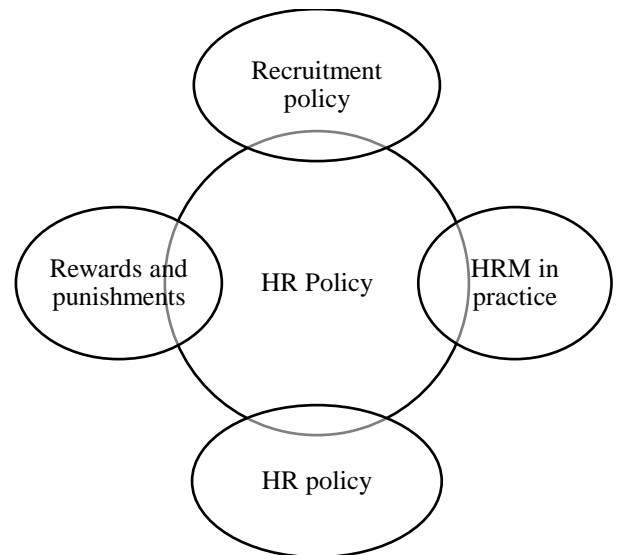


Fig.1. Implementation of a specific HR policy

- **Recruitment Policy:** setting certain requirements for applicants for specific positions, drawing up special psychological or professional tests to help determine the suitability of an applicant for a specific position.
- **Human Resource Management in Practice:** the organization of the workplace and the employee’s working hours, setting goals and tasks, building his career ladder.
- **Professional Development of Employees is a Mandatory Part of HR Policy:** Human resources mean their quality increases over time - this allows the company to independently train employees who meet its needs instead of hiring expensive highly qualified specialists.
- **Policy in the Field of Rewards and Punishments** – is the main motivational component of HR policy which on one hand motivates the employee to work well and take initiative in anticipation of reward.

The last point in the above list deserves special attention. Management is impossible without proper organization of work. In general, motivation can take three forms shown in Fig.2.

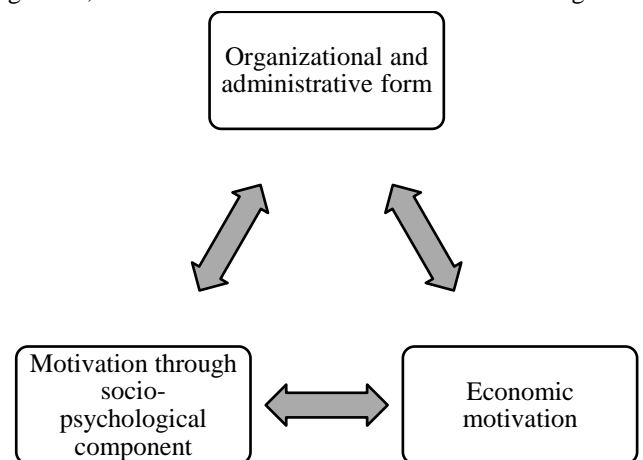


Fig.2. HR motivation

- **Organizational and Administrative Form** - includes the issuance of any directives, directives, and directives and so

on. This method has a direct impact on employees, but is ineffective because the employee performs the necessary actions “off the cuff” and not on his own volition.

- **Economic Motivation:** a system of bonuses and penalties. Incentive or punishment with ruble or dollar is the most effective type of influence because the employee is eager to perform management tasks through a rational objective. For a good job he will get a bonus, and for a bad one he will not only lose it, but also pay a fine.
- **Motivation Through Socio-Psychological Component:** includes motivating employees through career advancement, certificates or gratitude, awarding the title of “Employee of the Month (Year)”. This influence method allows the employee to feel better and get more motivation to work.

Since human resource management is a complex process, dedicated employees are assigned to execute it, and even entire HR departments in large organizations. Human resource management is a direction of management, the main goal of which is to increase the efficiency of the company by creating favorable conditions for the labor activity of its employees. Effective human resource management, on the one hand, allows the employer to obtain maximum profit through the use of knowledge, skills and abilities of employees, their labor capacity and, on the other hand, the maximum possible material incentives and psychological satisfaction. Directions in human resource management include the following are shown in Fig.3.

- Organizational Planning (Organizational Planning).
- Analysis of work and jobs (job analysis).
- Selection, Appraisal and Recruitment of Personnel (Selection and Appraisal).
- Improving working conditions (Improving working conditions).
- Conflict Management and Labor Dispute Resolution (Dispute Resolution).
- Team building.
- Training and Development Staff (Training and Development).
- Evaluation (evaluation or assessment) of the success of the work.
- Compensation for performance of labor functions (compensation, wage and salary administration).

Human resource management is based on the achievements of labor psychology and psycho technology. In the early stages of the development of personnel management, the concept of “personnel management” was used, which refers to the allocation of socio-psychological elements of the management process.

Human resource management is developed at the intersection of sciences such as management, labor economics, labor psychology, social psychology, conflict management, and labor law. Labor capacity of an employee represents the totality of his physical and mental qualities, labor opportunities that determine the boundaries of his participation in labor activities. Key Components Labor Capacity:

- Psychophysiology (physical and mental health, performance, endurance);

- Socio-demographic (gender, age, marital status);
- cultural (education, qualifications, general level of culture);
- Sexuality and cognition (learning, intelligence and creativity);
- Socio-psychological (ability to work in a team, discipline, leadership skills, determination);
- Value (value orientations and attitudes, interests).

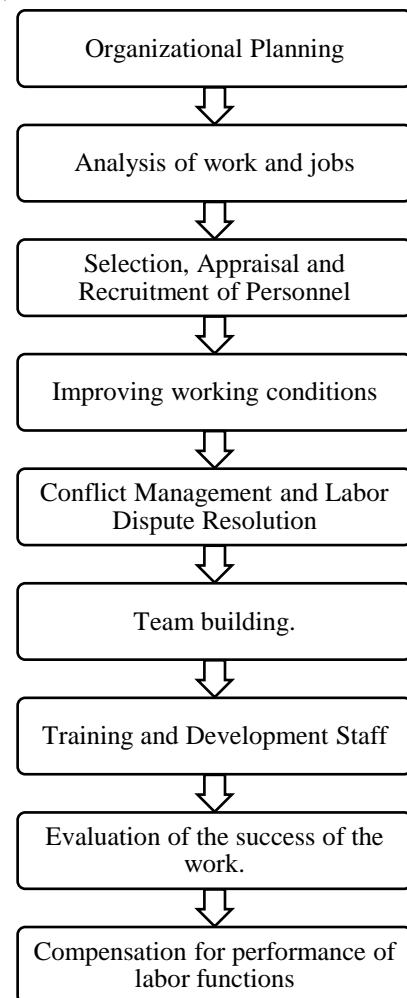


Fig.3. Proposed deep learning model

The concept “human resource” (human resources - HR) - is more capable than “employees”, “employees” and “labor resources”, because it includes the personal and psychological characteristics of people and their socio-cultural characteristics. The characteristics of human resources and their differences from other types of resources (informational, material, and financial) are as follows:

- The ability for self-development and improvement, which is a long-term source of increasing the effectiveness of an individual organization and society as a whole;
- An emotionally meaningful reaction to external influences, which is necessary for the object of control to receive feedback from the object;
- Motivation for work, because a person chooses a certain type of activity (mental or physical, productive or non-productive), sets certain goals and tries to satisfy his needs.

Currently, in management science, both the concept of “employees” and “human resources” are used. Personnel management refers to the presence of personnel in an organization or organization, which acts as an object of management, in connection with which management technologies are used. Human resource management recognizes that people are an organizational resource, not just employees. Following are the differences between personnel management and human resource management.

- One of the basic principles of personnel management is the principle of reducing capital investment in employed workers, the purpose of personnel management is to save labor, and for this it is necessary to reduce the dependence of technical processes on the subjective factor. Human resource management is the investment in these resources, their development, development, incentive systems are created, modern methods of training employees are tested, the effectiveness of “investments” in human capital is evaluated, as a result of which maximum efficiency is achieved using human resources.
- Human resource management emerged within the framework of a strategic approach in management and includes the development of an active personnel policy, while personnel management is a tactical approach aimed at solving operational problems and using a more passive, reactive personnel policy.
- Technologies of personnel management are developed and used mainly by specialists working in the field of personnel management (personnel department within the framework of the traditional management structure). In smaller organizations, there may not even be a specialized department, and one or more UN experts report directly to the director. Human resource management is carried out by the top management, the top managers who formulate the personnel policy and determine the development strategy of an organization or organization.
- Personnel management takes a collaborative approach; the company’s employees are viewed as a team working to achieve the company’s goals. Human resource management refers to an individual approach, which manifests itself in techniques such as selection, adaptation, training and development, appraisal and employee behavior management.

In this way, the modern approach to human resource management includes the effective use of technologies for managing human resources, taking into account the concepts of human resource management and the fact that a person is the object of an organization, from selection and recruitment to release.

## 4. RESULTS AND DISCUSSION

The proposed management deep learning model (MDLM) was compared with the existing Optimization of Human Resource Management System (OHRMS), Research on Human Resource Management (RHRM), Fuzzy Comprehensive Dynamic Evaluation Algorithm (FCDEA) and Task Scheduling Algorithm (TSA)

### 4.1 LABOR RESOURCE MANAGEMENT

This is a part of the country’s population that has certain psychological, professional, intellectual qualities that make it possible to engage in labor activities and create material and spiritual benefits. The labor force consists of people who are employed and those who are not working but are capable of working (potential workers). Activities in the field of human resource management were limited to creating regulatory systems, training and incentives for employees, since the main concern of management in this period was to increase the labor productivity of an individual worker and increase the efficiency of production. This was shown in Table.1.

Table.1. Labor resource management

Inputs	OHRMS	RHRM	FCDEA	TSA	MDLM
100	78.12	82.00	77.84	78.74	96.31
200	76.63	80.07	75.64	77.30	95.27
300	74.82	78.34	74.49	75.58	94.50
400	73.22	76.48	72.64	74.05	93.55
500	71.57	74.65	70.96	72.47	92.64
600	69.92	72.82	69.29	70.89	91.74
700	68.27	70.99	67.61	69.31	90.83

### 4.2 HUMAN RESOURCE MANAGEMENT

It is a specific management function. Recently, this activity has become increasingly important, because the efficiency of a company, its competitive advantage depends on the efficiency of using its main resource - a person. In this regard, the requirements for the employee are increasing, the importance of a creative approach to work, a high level of professionalism, is increasing. The function of human resource management is becoming more complex, the role and location of the head of the company’s HR department is changing. He becomes one of its main leaders. The content of the HR management function has changed with changes in production conditions and management objectives. This was shown in Table.2.

Table.2. Human resource management

Inputs	OHRMS	RHRM	FCDEA	TSA	MDLM
100	83.63	89.18	84.39	85.88	99.87
200	82.00	87.44	82.81	84.46	98.58
300	81.52	85.10	80.61	83.20	97.57
400	80.23	84.29	78.98	81.21	96.68
500	79.17	82.25	77.09	79.87	95.53
600	78.11	80.55	75.25	78.34	94.47
700	77.04	78.85	73.40	76.82	93.41

### 4.3 GOAL MANAGEMENT

Human resource management is the design of formal systems of an organization that ensures effective use of human knowledge, skills and abilities to achieve organizational goals. It refers to the pool of knowledge, experience, skills, abilities, connections and wisdom of people working in an organization. The ultimate goal

of HR management is aligned with the ultimate goal of the organization as a whole. This is to ensure stable operation and sustainable growth of the company in the long run. The immediate goal of HR management is to provide the required workforce to the organization, creating a cohesive, efficient team capable of achieving the planned goals. This was shown in Table.3.

Table.3. Goal management

Inputs	OHRMS	RHRM	FCDEA	TSA	MDLM
100	87.89	80.40	77.48	79.77	96.77
200	87.25	78.88	76.23	78.68	95.61
300	86.59	78.64	73.50	78.20	94.84
400	85.94	77.55	71.76	77.31	93.81
500	85.29	76.67	69.77	76.53	92.84
600	84.64	75.79	67.78	75.74	91.88
700	83.99	74.91	65.79	74.96	90.91

#### 4.4 STRATEGIC MANAGEMENT

The strategic role is global, long-term, and innovative. It assumes that people become the main resource of the organization and it is with this resource that the competitive advantage of the organization is related if properly managed. This role is realized through activities such as HR planning; Development of legal issues related to people management; Study of labor force trends; resolving issues of mergers and acquisitions; promoting organizational restructuring and downsizing; Management of rewards. Strategic human resources management provides the organization with a strategy for the planned development of human resources, which makes it possible to have trained employees according to the needs of the organization. This was shown in Table.4.

Table.4. Strategic management

Inputs	OHRMS	RHRM	FCDEA	TSA	MDLM
100	93.52	85.08	84.23	74.87	94.87
200	92.03	83.11	81.81	72.67	94.88
300	91.23	81.98	81.40	71.87	93.68
400	88.90	80.79	79.80	71.20	93.20
500	87.75	79.24	78.38	69.70	92.60
600	86.29	77.84	77.01	68.52	91.98
700	84.82	76.44	75.64	67.34	91.36

#### 4.5 RECRUITING MANAGEMENT

It is a managerial, short-term role, concerned with various people management activities and aimed at implementing developed strategies. This role is realized through the following activities. Recruiting and selecting personnel to fill existing vacancies; Enabling professional and social orientation and adaptation; Review reports on safety in case of accidents; Management of fringe benefits programs; Building positive labor relations in the group between employees and management; handling of complaints; Job Performance Appraisal. This was shown in Table.5.

Table.5. Recruiting management

Inputs	OHRMS	RHRM	FCDEA	TSA	MDLM
100	82.04	84.98	82.84	75.53	91.86
200	80.84	83.66	82.11	74.21	91.48
300	80.23	82.83	81.22	73.67	90.91
400	79.82	82.43	81.14	73.37	91.21
500	78.91	81.35	80.33	72.44	90.73
600	78.19	80.51	79.73	71.74	90.48
700	77.46	79.66	79.13	71.04	90.23

#### 5. CONCLUSION

Traditionally, recruitment is done from internal and external sources. It know their pros and cons. internal resources - promotion of their employees, organizing competitions among interested candidates, the best of them are selected - cheap, they motivate other employees, improve the moral and psychological environment in the team. But new people do not come to the company, different experience, new look, new knowledge. This can lead to the loss of the company's flexibility and mobility, its aging. In addition, internal recruitment requires expensive training and employee development programs and has fewer choices. Therefore, HR departments need to establish linkages with various external organizations from which labor inflows are possible. Based on this information, a search is made for a person who meets these criteria. Such search includes screening of potential candidates for existing vacancies in the organization and selection of the most suitable ones.

#### REFERENCES

- [1] D. Tang, "Optimization of Human Resource Management System Based on Data Mining Technology and Random Forest Algorithm", *Wireless Communications and Mobile Computing*, Vol. 123, pp. 1-13, 2022.
- [2] H. Wang, "Research on Human Resource Management Performance Evaluation Method Based on Chaos Optimization Algorithm", *Security and Communication Networks*, Vol. 2022, pp. 1-12, 2022.
- [3] P. Agarwal, "A Study of Work - Life Balance with Special Reference to Indian Call Center Employees", *International Journal of Engineering and Management Research*, Vol. 4, No. 1, pp 157-164, 2014.
- [4] G. Kinman and F. Jones, "A Life Beyond Work? Job Demands, Work-Life balance, and Wellbeing in UK Academics", *Journal of Human in the Social Environment*, Vol. 17, No. 1-2, pp. 41-60, 2008.
- [5] N.A. Awamleh, "Organizational Commitment of Civil Service Managers in Jordan: A Field Study", *Journal of Management Development*, Vol. 15, No. 5, pp. 65-74, 1996.
- [6] D.M. Kroenke, "MIS Essentials", 4<sup>th</sup> Edition, Pearson, 2014.
- [7] T. Xiang, P.Z. Wu and S. Yuan, "Application Analysis of Combining BP Neural Network and Logistic Regression in Human Resource Management System", *Computational Intelligence and Neuroscience*, Vol. 2022, pp. 1-14, 2022.
- [8] H. Al-Mobaideen, S. Allahawiah and E. Basio, "Factors Influencing the Successful Adoption of Human Resource

- Information System: The Content of Aqaba Special Economic Zone Authority”, *Intelligent Information Management*, Vol. 5, No. 2, pp. 1-9, 2013.
- [9] C. Liu, “Data-Driven Optimal Scheduling Algorithm of Human Resources in Colleges and Universities”, *Scientific Programming*, Vol. 2022, pp. 1-15, 2022.
- [10] J. Meyer and N. Allen, “Commitment in the Work Place: Theory, Research and Application”, Sage Publications, 1997.
- [11] Stephen P. Robbins and Seema Sanghi, “*Organizational Behavior*”, Prentice Hall, 2008.
- [12] Y. Liu and M. Norouzi, “An Optimized Human Resource Management Model for Cloud-Edge Computing in the Internet of Things”, *Cluster Computing*, Vol. 25, No. 4, pp. 2527-2539, 2022.
- [13] O. Janssen, “The Barrier Effect of Conflict with Superiors in the Relationship between Employee Empowerment and Organizational Commitment”, *Work and Stress*, Vol. 18, No. 1, pp. 56-65, 2004
- [14] N. Zong, “Construction of the Enterprise Human Resource Quality Evaluation System Based on the WICS Leadership Model”, *Mathematical Problems in Engineering*, Vol. 2022, pp. 1-8, 2022.
- [15] A. Suliman, “Is it Really a Mediating Construct? The Mediating Role of Organizational Commitment in Work Climate Performance Relationship”, *The Journal of Management Development*, Vol. 21, No. 3-4, pp. 170-183, 2002.
- [16] A.P. Brief and W.R. Nord, “*Meaning of Occupational Work*”, Lexington Books Publisher, 1990.
- [17] Zeeshan Ahmed, Sarwat Sabir, Mishal Khosa, Imam Ahmad and Muhammad Amjad Bilal, “Impact of Employee Turnover on Organisational Effectiveness in Tele Communication Sector of Pakistan”, *IOSR Journal of Business and Management*, Vol. 18, No. 11, pp. 88-96, 2016.
- [18] Biju Varkkey, “*Human Resource Management*”, Dorling Kindersley Publishing, 2009.