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Mechanism for creation and implementation of fractal model of human resource management: analyzing the personnel properties for demand of the organization

Abstract

Object: This paper considers an issue related to human resource management (HRM) in an organization from the point of view of a fractal. The paper aims is to determine the main parameters and importance of personnel management, and to create and to implement a fractal model of personnel management, which are the basis of the human resource management system in the organization.

Methods: The authors used the theoretical approach from the fractal theory to determine the fractal of things, and the questionnaire method for collecting data. Obtained data was analyzed by using the formulae of fractal theory.

Findings: Identifying the levels of personal properties and their manageability using the fractal HRM model is achieved in two phases. When the personnel susceptibility to control impact shows the higher meanings, it means that they are more controllable. Also, this paper determined that the control impact works if the manager uses 80 % of the force of impact.

Conclusion: Using of the fractal HRM model significantly impacts on the efficiency management of the organization and identifies the real position of the personnel, that is, which one is more capable among them and how to use their abilities in favor of the organization.

Keywords: human resource management, personnel, organization, fractal, control impact, the need for personnel.

Introduction

Human resource management (HRM) is a set of actions aimed at recruiting, developing and maintaining an effective workforce necessary to achieve the goals (Ψ) of an organization. HRM is a component of management of any organization, along with the management of material and natural resources (Hausknecht, Rodda, & Howard, 2019). However, in terms of their properties, people are significantly different from any other resources. Therefore, they require special methods of management.

To ensure the effective achievement of the organization's goals, it is necessary to organize all HRM issues into one stable set of interactions (G). In such a process the most important things are the activity of the personnel, the human factor, and a single management activity of the organization (Joseph, 2020). The management process should take into account the specifics of human resources. It is expressed as follows: firstly, in contrast to the means of production of machines and raw materials, people are endowed with intellect, therefore their reaction to control impact is meaningful, not mechanical. This means that the process of interaction between the organization and the personnel is two-way. Secondly, due to the possession of intelligence, people are capable of continuous improvement and development. Thirdly, in modern conditions of scientific and technological progress, when technologies and professional skills become obsolete over several years, the ability of employees to constantly improve and develop is the most important and long-term source of increasing the efficiency of any organization (Priyadharshini, Kamalanabhan, & Madhumathi, 2015).

It means that the top-manager of the organization must always assess the demand for these personnel to achieve the goals (Ψ) of the organization.

The paper aims to determine the main parameters and importance of personnel management, and to create a fractal model of personnel management, which are the basis of the human resource management system in the organization.

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This research considers urgent issues related to the of human resource management (HRM) in an organization from the point of view of a fractal. HRM always has a necessity for two criteria and a measure of control impacts to achieve the management goal. This is a criterion for assessing the manageability of personnel and a criterion for assessing the demand for personnel for an organization. The measure of managerial influences is assessed based on the nonlinearity of control influences, which expresses fractality. This paper proposes a model for determining the degree of demand for personnel for an organization. On the basis of these criterias, the authors proposed a fractal method of human resource management.

Literature Review

Management theory has existed as a science for more than a hundred years in the form of an independent branch of knowledge, based on certain principles of the concept and scientific schools (Boxall, Purcell, & Wright, 2009). According to Rowley and Jackson, the allocation of management as an independent science, much more advanced in the scientific and applied science of management is due to the fact that in this area the science of management has achieved great success and found its subject («Human resource management: the key concepts», 2011). This is evidenced by that when we talk about the science of management, we usually mean not the management of the economy at the macro and micro level, but the management of the organization and its personnel, in fact, it is management taking into account the human factor (Armstrong, 2010). In microeconomics, flows of goods and finance are at the forefront, but in management theory more attention is paid to the relationship between managers and subordinates in the production process (Griffin, 2012). A deep connection between one and the other side of production takes a place in microeconomics and in management theory (Cole & Kelly, 2011).

For a very long time, the science of organization management relied mainly on the study of administrative and economic methods of managing production teams (Zhemchugov & Zhemchugov, 2017). Socio-psychological methods of managing an organization remained outside the science of management, although they were undoubtedly used by individual leaders often empirically, intuitively, based on the principles of ethics, morality, prescriptions, religion (Abutalibov & Mammadov, 2010). At the same time, it became more and more obvious that in the context of the socialization of the organization, the decisive interaction of workers in labor processes, the final result of its activities increasingly became dependent on the internal attitude of personnel to the work, on the principles of ethics and morality in relations between managers and workers (Armstrong, 2006). All of these are called the human factor in the management of the organization. It turned out that the quality and productivity of workers is determined not only by their purely economic, monetary interests, but also by the inter-employee relations in the team, satisfaction with working conditions, prestige of the profession, and the possibilities of self-survival of the individual by the internal moral and psychological attitudes of the worker (Leroy, Segers, van Dierendonck, & den Hartog, 2018).

Human resource management of an organization has the same organizational function as the management of any object or processes, investment management, and technological development. Recent years, characterized by the acceleration of scientific and technological progress, the further development of market relations and a significant increase in competition, determine the setting of new tasks for experts in the field of human resource management (Bloom & Van Reenen, 2011). By its nature, this procedure is performed from the point of view of the interests of the organization. To achieve the goals of the organization (Ψ), the head of the organization has to gather appropriate human resources. Namely, the HRM tasks arise in this situation. Instead of to create a HRM system, a top-manager must have a personnel management model. Generalization of this model is the HRM model.

Methods and Results

The solution to this problem and the creation of a personnel management model is solved in two stages. In the first stage the manager must select the required personnel that meet the interests of the organization. At the second stage the manager chooses the type of control impact on the demanded personnel.

The first phase

To assess the need for personnel, first of all, taking into account the interests of the organization, the manager determines those properties of personnel that are necessary to achieve the goals of the organization. On the basis of the dialectic of logic, we gave some definitions related to features:

Definition 1. Features of an object are that objects or phenomena, which are either similar or different from each other. By its nature, any feature has global and local properties.

Definition 2. The global property of a feature is such a property, due to which each of the features is necessary, and all taken together are sufficient to distinguish a given object from all others. The properties inter-connected with other properties can be understood as the dependence of one property on another one.

Definition 3. A local property of a feature is a property, due to which a group of features necessary for recognizing an object by its known side is determined, and this side is established by the task put forward by practice in each specific case.

In this case, the personnel of the organization were taken as an object. Based on these definitions, we developed a model to assess the demand for personnel for the organization. To do this, we introduced the concept of the demand for personnel for the organization, which is called as a criterion of management. In this case, the organization is defined as an object that has certain properties, where the personnel perform their activities.

Definition 4. The properties of the organization are defined as k_i and the personnel of the organization also have certain properties p_j . As we said in abovementioned definitions, personnel (P) on the organization has local p_j and global $G_c(r(p_j, k_i))$ properties. It is the coincidence of these properties that determines its relevance for the organization and is the criterion for management (Saparkhojayev, Abdrakhmanov, Rustamov, & Duisenova, 2021).

Model for assessing the demand for personnel for an organization

As the local property was defined in terms of p_j , this property is expressed as $p_j = \{p_1, p_2, p_3 \dots p_m\}$. Each member of this set for P has a certain degree of importance for organization. This importance can be scaled in the range $[-1; 1]$. This scaling is done by the top-manager of the organization. To determine the global property of P the correlation dependence between k_i and p_j is calculated according to the following formula (Rustamov, Ibrahim, & Abdrakhmanov, 2009):

$$r(p_j, k_i) = \begin{cases} = 1, & \text{if } k_i \rightarrow \max, p_j \rightarrow \max \\ = 0, & \text{if } k_i \text{ and } p_j \text{ has no correlation} \\ = -1, & \text{if } k_i \rightarrow \max, p_j \rightarrow \min \text{ or vice versa.} \end{cases} \quad (1)$$

Head of the organization evaluates this function for each P . Then, he determines the maximally involved in the correlation p_j .

Definition 5. Personnel is called necessary or demanded for the organization, if the global and local properties of personnel necessary for organization coincide, that is $G_c(r(p_j, k_i)) \rightarrow \max$, then this P is to be under control. The decision is made for the following consideration. If the property p_j , which is necessary for the manager, turns out to be maximally involved in the correlation $r(p_j, k_i)$ with the properties of organization.

As an object, we took a certain organization with certain properties k_1, k_2, k_3 and four working personnel with properties p_1, p_2, p_3 . Our task is to identify the most in-demand personnel for the organization among them. We have solved this problem with the above proposed model. To assess the demand for P we determined the basic properties of personnel, i.e., its global and local properties.

Step 1. We ranked the importance of the properties of P such as p_1, p_2, p_3 according to the need for organization.

Step 2. We defined the global property of organization.

The global properties of P have the value of the function $G_c(r(p_j, k_i))$ when it reaches its maximum. The following properties were attributed to the global property: k_1 — good salary, k_2 — attractive infrastructure of the organization (modern offices, research laboratories, Hi-Tech classrooms, etc.), k_3 — good social status (reputation) of the organization. The following properties were selected as the local properties of P : p_1 — qualifications, p_2 — communication skills, p_3 — sense of responsibility of personnel.

$$\begin{cases} p_1, p_2, p_3 \\ \gamma_1, \gamma_2, \gamma_3 \end{cases} \quad (2)$$

Here $\gamma_1, \gamma_2, \gamma_3$ express the importance of the properties p_1, p_2, p_3 of the P .

We used the data obtained by questionnaire to determine the correlation dependence $r(p_j, k_i)$ between k_i and p_j of personnel according to the formula (1).

Table 1. Correlation dependence of global and local properties of personnel

№	Relationship of properties	P_1	P_2	P_3	P_4
1	k_1p_1	0,5	0,0	1,0	-0,5
2	k_1p_2	-0,5	0,5	0,0	-1,0
3	k_1p_3	1,0	0,0	-1,0	-0,5
4	k_2p_1	0,5	0,5	0,0	0,5
5	k_2p_2	0,0	0,5	0,0	-0,5
6	k_2p_3	0,5	0,5	1,0	-0,5
	k_3p_1	1,0	0,5	1,0	0,0
	k_3p_2	0,5	0,0	1,0	-0,5
	k_3p_3	1,0	0,0	0,0	0,5

Note — Compiled by the authors on the basis of questionnaire

By analyzing the correlation of local properties to the global property, we determined the following:

P_1 . For $p_1 G_c(r(p_j, k_i)) = 1$, for $p_2 G_c(r(p_j, k_i)) = 0$, for $p_3 G_c(r(p_j, k_i)) = 2$. This means that the global property of P in p_3 is equal to 2. If the property p_3 of P_1 is maximal according to the ranking, then $G_c(r(p_j, k_i)) \rightarrow \max$ and P_1 is considered in demand for his responsibility.

P_2 . For $p_1 G_c(r(p_j, k_i)) = 1$, for $p_2 G_c(r(p_j, k_i)) = 1$, for $p_3 G_c(r(p_j, k_i)) = 0,5$. This means that the global property of P_2 in p_1 and p_3 is equal to 1. If the properties are average for P_2 , then it is considered to be in average demand for his qualification and communication skills.

P_3 . For $p_1 G_c(r(p_j, k_i)) = 2$, for $p_2 G_c(r(p_j, k_i)) = 1$, for $p_3 G_c(r(p_j, k_i)) = 0$. This means that the global property of P in p_1 is equal to 2. If the property p_1 of P_3 is maximal according to the ranking, then $G_c(r(p_j, k_i)) \rightarrow \max$ and P_3 is considered in demand for his qualification.

P_4 . For $p_1 G_c(r(p_j, k_i)) = 0$, for $p_2 G_c(r(p_j, k_i)) = -2$, for $p_3 G_c(r(p_j, k_i)) = -0,5$. This means that the global property of P_4 in p_1 is equal to 0. If the most maximum property p_1 of P_4 equal to 0 according to the ranking, P_4 is considered not in demand in all properties.

Thus, this analysis gives us that P_1 has a high sense of responsibility. P_2 has an average level of qualifications and communication skills. P_3 focuses more on qualifications than other abilities. P_4 puts forward the approval that communication skills negatively affect all global properties.

According to Table 1, the personnel most involved in the correlation, were determined. The global properties and local properties of P_1 were connected in eight points, of which seven were positive, and one had a negative relationship, k_2p_2 had no correlation as it showed 0 (zero). P_1 had five positive connections and four points had no connection. P_3 had four positive, one negative, and four uncorrelated positions. P_4 had two positive, six negative, and one point with no correlation (Table 2).

Table 2. The number of correlations between global and local properties of personnel

№	Local properties	P_1 (+/-)	P_2 (+/-)	P_3 (+/-)	P_4 (+/-)
1	p_1	3/0	2/0	2/0	1/1
2	p_2	1/1	2/0	1/0	0/3
3	p_3	3/0	1/0	1/1	1/2
	Total	7/1	5/0	4/1	2/6

Note — Compiled by the authors on the basis of questionnaire

As we mentioned above, it is very important for the manager to determine the importance of the p_j properties. That's why we made a ranking of the importance of local properties. The first place was given to the qualifications of personnel, then responsibility and the last one was communication skills. If we scale the importance of properties in the interval [1; 2; 3], then qualification = 3, responsibility = 2, communication skills = 1. According to this ranking, the manager evaluates the characteristic properties for each candidate for a certain position (Table 3).

Table 3. Ranking of local properties by importance

№	Local properties	P_1	P_2	P_3	P_4
1	$p_1 = \text{qualifications}$	3>1	3>1	3>2	3>0
2	$p_3 = \text{responsibility}$	2=2	2>0,5	2>0	2>-0,5
3	$p_2 = \text{communication skills}$	1>0	1=1	1=1	1>-2

Note — Compiled by the authors on the basis of questionnaire

If the importance of the property of personnel is equal to the maximum number of participation in the correlation, i.e., $G_c(r(p_j, k_i)) \rightarrow \max =$ importance of property, then the personnel is considered to be in demand for the organization. As indicated in Table 3, P_1 's p_1 is one-third of importance. This means that the required qualifications for P_1 are not enough. But he has a sense of responsibility at the highest level. And his communication skills are at a low level. P_2 has the same qualifications as P_1 , and a high level of communication skills, but he has very low responsibility. P_3 is distinguished by his qualifications, but he has very low responsibility, and his communication skills are at the highest level. P_4 is not proud of his qualifications, his responsibility and communication skills are very low.

The results of this study for P_1 show that global properties (salary, infrastructure, status of organization) directly affect its qualifications and responsibility, while salary affects communication skills negatively, and infrastructure positively. For P_2 , almost all global properties have a positive effect and no negative connection was noticed in it. The properties of P_4 generally go to the negative side. P_3 prefers more neutral position. Personnel, whose properties shows $\max G_c(r(p_j, k_i)) = \max(\gamma_1, \gamma_2, \gamma_3)$, is able to be controlled, i.e. in this case P_1 is a more suitable candidate for promotion.

The selection of personnel for the needs of the organization generates human resources. Then the manager is faced with the task of choosing a control measure for this resource.

The second phase

After the selection of a human resource, a model for managing this resource is designed. Market turbulence requires non-linearity of control impacts. According to Rustamov (2016), the linear control impact (U) is expressed by the following formula (3):

$$U = q \cdot f. \quad (3)$$

Here, f is the force of impact;

q is the depth of impact.

Thus, the properties of *susceptibility to impact* (U) on personnel causes the following reactions:

a) *resistance* arises, when the goals of personnel and the goals of the organization do not coincide. This parameter will be denoted as $S = \{s_1, s_2, \dots, s_n\}$;

b) *selectivity* appears if $f \rightarrow \max$. This parameter will be denoted as $I = \{i_1, i_2, \dots, i_n\}$;

c) *uncertainty* arises when $f \rightarrow \max$ and $q \rightarrow \min$ or $f \rightarrow \min$ and $q \rightarrow \max$. This parameter will be denoted as $N = \{n_1, n_2, \dots, n_k\}$;

d) *activity* arises when the goals of personnel and the goals of the organization coincide. This parameter will be denoted as $A1 = \{a1_1, a1_2, \dots, a1_1\}$

When the management makes an impact (U) and begin to manage the personnel of the organization, they have use the following HRM model $G: U \rightarrow X$:

$$G(f \& q) : ((U \rightarrow S) \& (U \rightarrow I) \& (U \rightarrow N) \& (U \rightarrow A1)) \rightarrow X \quad (4)$$

Formula (4) shows that HRM is the impact on P in order to achieve the goals (Ψ) and the generation of an entrepreneurial socio-psychological atmosphere with such impact. On the other hand, a very difficult question arises for the manager, how to use $U=G(q \& f)$ in the activities of the organization in order to effectively use human resources and to achieve the goals (Ψ). To do this the manager needs a measure of using U. Such a measure should ensure the effectiveness of the impact on the personnel (P) of the organization, depending on whether or not X is performed. In physical essence, this measure depends on f (Rustamov, 2016).

This dependence stems from the turbulence of the market environment. Then, from the point of view of fractal geometry, the scale of the influence $\eta \in U$ will be the force of impact f , and the depth of impact q is the scale factor. From this point of view, the degree f reflects the fractal dimension D of the impact $U(q \& f)$, which characterizes the measure of an increase (or decrease) in market turbulence (Balkhanov, 2013).

According to this approach, the model of control impacts in organization is estimated by the following formula:

$$U(q \& f) \approx q \cdot f^{1-D}. \quad (5)$$

Formula (5) expresses that the effectiveness of the impact depends on the force of impact and is similar to the Mandelbrot ratio (Mandelbrot, 2002) [16]. The fractal dimension D is taken as the measure of the use

of the control impact (U). This dimension is evaluated by the difference between the intervals of importance of the properties $\gamma_1, \gamma_2, \gamma_3$ of the personnel.

In order to determine the fractal dimension we established the importance of the properties p_1, p_2, p_3 of the personnel on a scale from 0 to 1, i.e., $\gamma_1 = 0.6; \gamma_2 = 0.2; \gamma_3 = 0.4$. According to this definition, the fractal dimension is determined by subtracting the next value from the largest value, i.e., $D = 0.6 - 0.4 = 0.2$. Consequently, according to the formula (5):

$$U(q\&f) \approx q \cdot f^{1-0.2} = 0.8,$$

which it means that control impact will work if the manager uses 80 % of the force of impact.

The next step is to find out the manageability of the selected personnel. We used the questionnaire method to determine the properties of susceptibility of personnel to impact. If the personnel susceptibility to control impact is higher, this means that they are more controllable. For quantitative analyze of the susceptibility, we gave the scale of the assessment for the parameters of the personnel's reaction to control impact. This is shown in Table 4.

Table 4. Algorithm of properties of susceptibility to impact

№	Parameter	Sub-parameter	Name of parameters	Meaning
1	S	S ₁	Refusal of an employee to transfer to another locality within the organization	0,5
		S ₂	Refusal to continue work due to changes of working conditions	0,5
		S ₃	Gross violation of labor discipline	1
2	I	I ₁	Absenteeism (partial absenteeism) in the workplace	0,5
		I ₂	Late more than 15 minutes	0,5
		I ₃	Rational use of working time	0,75
3	N	N ₁	Insufficient qualifications	1
		N ₂	Not passing the annual qualification trainings	0,75
		N ₃	Loss of work capacity because of disrespectful reason	0,5
4	A	A ₁	Good job performance	0,5
		A ₂	Active participation in the activities of the organization	0,5
		A ₃	Friendly and considerate treatment with colleagues	0,5

Note — Compiled by the authors

In Table 5 we have assessed the personnel susceptibility properties to impact by four parameters.

Table 5. Assessment of personnel for properties of susceptibility to impact

№	Parameter	Sub-parameter	P ₁	P ₂	P ₃	P ₄
1	S	S ₁	0,5	0,2	0,5	0,1
		S ₂	0,1	0,5	0,1	0,1
		S ₃	0,1	0,1	0,7	0,1
2	I	I ₁	0,5	0,1	0,1	0,4
		I ₂	0,5	0,5	0,5	0,3
		I ₃	0,7	0,5	0,3	0,3
3	N	N ₁	0,1	0,9	0,8	0,7
		N ₂	0,8	0,4	0,4	0,4
		N ₃	0,1	0,5	0,4	0,2
4	A	A ₁	0,5	0,5	0,5	0,5
		A ₂	0,5	0,5	0,3	0,3
		A ₃	0,5	0,5	0,5	0,5

Note — Compiled by the authors on the basis of questionnaire

Instead of getting the average number of each parameter, we calculated the average arithmetic mean of all parameters (Table 6).

Table 6. Average indicator of the properties of personnel susceptibility to impact

№	Personnel	S	I	N	A
1	P_1	0,23	0,57	0,33	0,5
2	P_2	0,27	0,37	0,6	0,5
3	P_3	0,43	0,3	0,53	0,43
4	P_4	0,1	0,33	0,43	0,43

Note — Compiled by the authors on the basis of questionnaire

After finding the average mean of all parameters for each personnel, we used the following formula:

$$MB = \frac{1}{3} \left(\frac{I+N+A}{3} \right). \quad (6)$$

According to this formula we got the following meanings:

$$\text{for } P_1, MB = \frac{1}{0,23} \left(\frac{0,57+0,33+0,5}{3} \right) = 2,04;$$

$$\text{for } P_2, MB = \frac{1}{0,27} \left(\frac{0,37+0,6+0,5}{3} \right) = 1,81;$$

$$\text{for } P_3, MB = \frac{1}{0,43} \left(\frac{0,3+0,53+0,43}{3} \right) = 0,98;$$

$$\text{for } P_4, MB = \frac{1}{0,1} \left(\frac{0,33+0,43+0,43}{3} \right) = 3,97.$$

According to the obtained results, it can be concluded that P_4 is more controllable, P_1 and P_2 , and P_3 is prone to uncontrollability. To sum up the results achieved in two phases we identified the levels of personal properties and their manageability using the fractal HRM model (Table 7).

Table 6. Results of main parameters of personnel according to fractal HRM model

№	Personnel	Qualification	Responsibility	Communication skills	Manageability
1	P_1	Average	High	Low	Average
2	P_2	Average	Low	High	Below average
3	P_3	High	Low	High	Low
4	P_4	Low	Low	Low	High

Note — Compiled by the authors on the basis of questionnaire

Conclusion

Using the fractal HRM model significantly impacts the efficiency management of the organization and identifies the real role of the personnel, that is, which one is more capable among them, how to use their abilities, and understand the conditions under which these abilities become in demand for the organization.

Human resource management for any organization is its decisive function, regardless of the system in which it exists. For this managers need to know, on the basis of what criterion they will produce control impact, and at what level they will use these influences. It means that they have to know the measure of these influences. Such a measure is derived from the fractality of the control impact. These tasks are as follows:

- solving the problem of compliance of the level of qualifications of employees with the requirements of the modern economy when skills become obsolete rather quickly;
- developing the professional training of employees at different levels of organizational structures and areas of activity;
- turning the economy towards a person, creating a social-oriented market economy;
- identification of talents among employees of the organization;
- an objective assessment of the performance of personnel.

Relying on the goals and objectives of the organization, on the work of personnel, on the service of personnel, on the process of ensuring the most important activities of the organization, HRM department performs professional functions and on the basis of such functions is in a single structure of management activity.

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Ж. Кудайбергенов, Н. Рустамов, Л. Тайжанов, С. Имер

Адам ресурстарын басқарудың фракталдық моделін құру және жүзеге асыру механизмі: ұйымның қажеттілігіне сай персоналдың қасиеттерін талдау

Аңдатпа

Мақсаты: Мақалада фрактал тұрғысынан ұйымдағы адам ресурстарын басқаруға байланысты мәселелер қарастырылған. Мақаланың мақсаты персоналды басқарудың негізгі параметрлері мен маңыздылығын анықтау, сонымен қатар ұйымдағы адам ресурстарын басқару жүйесінің негізі болып табылатын персоналды басқарудың фракталдық моделін құру және жүзеге асыру болып табылады.

Әдістері: Авторлар ұйымның фракталын анықтау үшін теориялық тәсілді және деректерді жинау үшін сауалнама әдісін қолданды. Қол жеткізген мәліметтер фракталдар теориясының формулаларын қолдана отырып талданды.

Нәтижелері: Адам ресурстарын басқарудың фракталдық моделін қолдана отырып, персоналдың жеке қасиеттерінің деңгейін және оларды басқаруды анықтау екі кезеңде жүзеге асырылады. Неғұрлым персоналдың қабілеттілігі басқарушылық әсерге қатысты жоғары көрсеткіштер көрсетсе, соғұрлым сол персонал басқаруға ыңғайлы болып есептеледі. Сонымен қатар, бұл зерттеу егер ұйым басшысы өзінің тек 80 % әсер ету күшін пайдаланса, басқарушылық әсердің жақсы жұмыс істейтінін көрсетті.

Қорытынды: Адам ресурстарын басқарудың фракталдық моделін қолдану персоналды тиімді басқаруға айтарлықтай әсер етеді. Сонымен қатар, қызметкерлердің қайсысы қабілетті және ұйымның пайдасына олардың қабілеттерін қалай пайдалануға болатыны сияқты олардың шынайы жағдайын анықтайды.

Кілт сөздер: адам ресурстарын басқару, персонал, ұйым, фракталдылық, басқарушылық әсері, қызметкер қажеттілігі.

Ж. Кудайбергенов, Н. Рустамов, Л. Тайжанов, С. Имер

Механизм создания и реализации фрактальной модели управления человеческими ресурсами: анализ свойств персонала на востребованность организации

Аннотация

Цель: В статье рассмотрен вопрос, связанный с управлением человеческими ресурсами в организации с точки зрения фрактала. Цель статьи — определение основных параметров и значимости управления персоналом, а также создание и реализация фрактальной модели управления персоналом, которые являются основой системы управления человеческими ресурсами в организации.

Методы: Авторы использовали теоретический подход из теории фрактальности для определения фрактала организации и метод анкетирования для сбора данных. Результаты были проанализированы с использованием формул теории фракталов.

Результаты: Определение уровней личных свойств персонала и их управляемости с помощью фрактальной модели управления человеческими ресурсами осуществляется в два этапа. Когда соотношение восприимчивости персонала к управляющему воздействию показывает более высокие значения, тогда это означает, что тот персонал управляемый. Кроме того, данная статья показала, что управляющее воздействие будет хорошо работать, если руководитель использует всего 80 % силу воздействия.

Выводы: Использование фрактальной модели управления человеческими ресурсами существенно влияет на управление эффективностью организации и определяет реальное положение персонала, то есть который из них более способный и как использовать их способности в пользу организации.

Ключевые слова: управление человеческими ресурсами, персонал, организация, фрактальность, управляющее воздействие, необходимость персонала.

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