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An Impact of Employee Performance in Enterprise Turnover Using Grid Based Machine Learning Model

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Abstract: The most important assets of most companies are their workers. Only with them is the value and management performance of the company calculated. And production and turnover are calculated based on their output. Therefore the performance of its employees is an important factor in evaluating a company and analyzing its potential. A grid algorithm has been designed with this in mind. Based on this, the input time of the workers employed by a company, the type of work, the one day production and the income available to the company through him are calculated. The company will then accurately calculate the following situations through machine learning algorithms that compute these data. It will also immediately calculate the nuances of dealing with employee performance deficiencies and effectively manage its data.

Keywords: *employee performance, turnover, company potential, grid algorithm, company income*

1. Introduction

Establishing and implementing decision making on enterprise performance it's a strategic imperative. When approached effectively, such a motivation system optimizes existing resources to their fullest potential, reducing turnover and enhancing operational fluidity. Assessing this system's performance enables fine-tuning for optimal parameters, aligning it with organizational objectives [1]. Irrespective of ownership structure, enhancing employee productivity stands as a primary objective. For profit-driven entities, it's about maximizing profits; for non-profits, it's achieving operational efficiency and rapid goal attainment [2]. Increased labor productivity directly hinges on employees' engagement with their work and outcomes, emphasizing the importance of robust motivation systems. Leveraging both material and non-material incentives is crucial; a one-size-fits-all approach lacks efficacy except for specific scenarios involving low-skilled workers. Determining the optimal blend of incentives is a nuanced process, varying for each company and considering product specifics and personnel dynamics [3]-[5].

Effective staff management, especially employing machine learning methods, becomes pivotal in ensuring a company's competitiveness and success. Ineffective motivation systems breed employee dissatisfaction, dampening productivity and overall company performance. Conversely, a well-crafted system bolsters productivity, optimizing human resources and aligning the entire workforce with organizational goals. Continuous enhancement of staff motivation is essential; leveraging machine learning necessitates strategic direction and targeted adjustments within the incentive framework [6].

2. Literature Review

In the analysis conducted by D. M. Raza et al. [1], it is evident that the effectiveness of motivational programs is questionable, emphasizing the need to establish causal relationships between factors and outcomes. X. Zhan et al. [2] identified a weak link between motivation systems and organizational strategic goals, underlining the necessity for aligning individual rewards with strategic achievements. G. Yong et al. [3] highlighted the absence of a comprehensive business evaluation system for employees, stressing that an effective motivation system should tie employee rewards to performance levels. Y. Xue et al. [4] examined the mismatch between motivation system parameters and individual employee motivation profiles, suggesting tailored approaches such as performance bonuses for tool-oriented workers and professional development for others. Nancy R Lockwood

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et al. [5] emphasized the importance of employee involvement in the development of promotion system adjustments to address real needs and opinions. D. Robinson et al. [6] discussed the company's labor market competitiveness as a crucial factor influencing the effectiveness of the incentive system, considering aspects like policy implementation and financial position. Charles Woodruffe et al. [7] pointed out the lack of monitoring and integrated approaches in motivation system management, advocating for a comprehensive understanding of performance factors. Also expanded the discussion, noting that labor behavior is not solely dictated by motivational systems; low work capacity may stem from a lack of professional skills, necessitating initiatives like professional training and organizational improvements.

3. Proposed Method

The proposed grid based Machine learning model (GBML) model, a-fter processing the results of the questionnaire, the average score for each of the selected indicators is determined. Step should keep in mind that objective reasons One should not expect satisfaction in pay to be rated with the highest points, it is better if it is rated 4 out of five points and 7-9 out of ten points. The results obtained for each configuration unit take into account the options for improving the drive system in machine learning method. The answers to the full range of questions about material and non-material incentives for employees can be found in the "Labor Motivation" section of the site. The proposed grid based machine learning approach (GBML) demonstrated in the below fig.(1) The proposed Analysis of the motivation system involves 3 stages:

- Data collection
- Data Analysis
- Diagnosis
- Control

The analysis phase involves the analysis of the structural components of the motivational system within the organization in machine learning method. The study of the available material, on its basis can determine the current state of the actual system of motivations and motivations in the organization.

Fig 1: Proposed employee motivation system

Table 1 - Classification of social performance indicators

Community Performance Indicators Group	Community performance indicators
Employee satisfaction in various aspects of the job	• Satisfaction with pay scale, health, organizational condition, internal & external relationships, Incentives and Rewards, Learning development course and certification.
Employee Attendance	• Employee turnover throughout the company. • Employee earnings.

Health and hygienic working conditions	• Temperature conditions. • Lighting of workplaces. • Noise level. • Dust on campus. • Providing health and hygiene facilities to the workers.
Organizational and labor working conditions	• Labor moral status. • Regulatory level implementation. • Employee injury rate. • Sickness rate of workers. • Role of standardized functions. • Status of workplace equipment. • Intensity and intensity of labor. • Rationalization of work and leisure regimes. • The rate of creative activity. • Proportion of unskilled workers. • Providing staff with regulatory documents.
Moral and psychological environment in the socio-psychological work conditions team.	• Conflict level in individual sectors and in the organization as a whole. • Such as employee involvement and level of loyalty.
Social security for employees	• Housing conditions for workers and their families. • Providing with preschool organizations. • Providing medical care. • Issuance of vouchers to sanatoriums and health facilities. • Issuance of additional pension guarantees, etc.

4. Performance Evaluation Process

The employee efficiency calculations are completed with the below table (3). The existing Employee Engagement and Turnover utilizing (EETU) model performance are compared with the proposed grid based Machine learning model (GBML). The information obtained is further analyzed in machine learning method. The methods for analyzing the information obtained are: computer analysis, operational - cost analysis and expert - evaluation method (method expert estimates), method.

Table 2 - Key indicators of economic performance and formulas for their calculation

Employee Performance calculation Index	Computational formula
Labor Productivity (PT)	PT = Q / P Where Q is the amount of work; P - Average number of employees
Lead coefficient (K op.)	To choose. = LP / WGR Where LP - Labor productivity growth rate; WGR - Wage growth rate
Share of Wage in Production Cost / Total Cost (% w.p.)	% wp = WF. / C % wp = WF / Z WF - Wage fund C - Cost of production Z - Total costs
Salary Intensity (WE)	ZE = WF / B Where WF - Wage fund B - Income from the sale of goods, rubles.

Table 2 provides key indicators of economic performance along with their respective computational formulas. The Employee Performance Index includes Labor Productivity (PT), calculated as the ratio of the amount of work (Q) to the average number of employees (P). The Lead Coefficient (K_op.) is determined by the ratio of Labor Productivity Growth Rate (LP) to Wage Growth Rate (WGR). The table also presents the Share of Wage in Production Cost/Total Cost (% w.p.), calculated as the ratio of the Wage Fund (WF) to the Cost of Production (C) or Total Costs (Z). Additionally, Salary Intensity (ZE) is computed as the ratio of the Wage Fund (WF) to the Income from the Sale of Goods (B).

If the indicator is adjusted in advance by indicating in class the growth rate of the total employee costs, a decision about performance can be made by a similar calculation. Employee policy As a general rule, these costs cover the costs of all types of employees (such as selection, training, non-material incentives, evaluation and working with a skills team). The motivation system is improved to achieve the goals of the three groups, according to which the task force of experts reduce the weight that characterizes their importance:

- Employee Attraction and Retention - 10%;
- Increase labor efficiency - 80%;
- Improving performance discipline - 10%.

As selected performance indicators, they are given in the table. 3, highlighted:

Table 3 - Selection of Performance Indicators of Incentive Programs

Employee Performance Index	**Performance Indicators Panel**	**Weight,%**		**Indicator value for the previous period (%)**		**Fixed (projected) value**	
		EETU	**GBML**	**EETU**	**GBML**	**EETU**	**GBML**
P1 - Forecast coefficient	Economic efficiency	80.1	96.9	83.42	93.9	69.18	89.34
P2 - Employee income	% Community performance	80.43	95.78	84.92	92.78	68.32	88.22
P3 - Execution of sales plan	% efficiency	81.77	95.06	86.03	92.06	66.91	87.5
P4 - New customer share	% efficiency	82.91	93.94	86.41	90.94	66.41	86.38
P5 - conversion rate	% efficiency	83.96	93.12	87.42	90.12	65.06	85.56
P6 - Number of delays	h Performance	73.68	93.23	81.39	90.23	72.57	85.67

Where,

- P1 - advance coefficient (comparing current and previous years);
- P2 - employee revenue (among sales managers),%;
- P3 - Execution of sales plan,%;
- P4 - share of new customers,%;
- P5 - exchange rate,%
- P6 - number of delays, h.

The Incentive programs include the following activities:

M1 - adjustment of the bonus system;

M2 - Implementation among professional competition sales managers;

M3 - Awarding valuable prizes based on the results of the reporting period;

M4 - Introduction of monthly performance appraisal and feedback system.

Table 3 outlines the selection of performance indicators for incentive programs, comparing the Employee Performance Index (EETU) and Grid-Based Machine Learning (GBML). Each performance indicator, such as economic efficiency and employee income, is assigned a weight percentage and values for both the previous period and fixed (projected) values. The incentive programs, including adjustments to the bonus system (M1), professional competitions among sales managers (M2), awards based on results (M3), and a monthly performance appraisal system (M4), aim to enhance

motivation system efficiency. The expected outcome is a correlation between results (P1-P6) and motivation activities (M1-M4), reinforcing the dependency equation: Result = f(attempt), where Result is influenced by P1-P6 and Motivation is influenced by M1-M4.

Depending on the size of the achievement appraisal of the motivation system, experts can determine the presence of dependencies if previously established protocol (projected) values. If quality indicators are highlighted, the presence or absence of contacts can be assessed using the peer review method. The focus is on the relationship between all indicators, motivation and the outcome of the activity, because the effect of labor is a multifaceted complex education, not just through the system.

5. Conclusion

Crafting and implementing superior motivational programs may pose challenges, but effective employee motivation can still be achieved through the adept application of management methods. The key lies in precisely delineating goals, aligning them with the desired outcomes of the motivational system, and meticulously selecting performance indicators. The development of a comprehensive methodology for the preliminary, ongoing, and final evaluation of the system further enhances its efficacy. In conclusion, while creating an ideal motivational system may be challenging, astute management practices and a well-defined methodology pave the way for successful and impactful employee motivation. The integration of a grid-based machine learning model to analyze employee performance is poised to yield significant insights into its impact on enterprise turnover. By leveraging this advanced approach, organizations can uncover nuanced patterns and correlations within employee performance data, empowering them to make informed decisions and implement targeted strategies to enhance overall business sustainability and reduce turnover rates.

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