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PROBLEMS OF HUMAN RESOURCES MANAGEMENT AT INDUSTRIAL ENTERPRISES IN THE POST-WAR PERIOD

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The article examines the issues of personnel policy of industrial enterprises in the post-war period. The quantitative and qualitative composition of the personnel in the industrial sector, the number of permanent employees, and the business's innovative activities have been investigated. It is noted that personnel serves as the foundation for enterprise development, ensuring the stability of industrial enterprises. It has been found that the number of permanent employees in the industrial sector is constantly decreasing, and factors such as the implementation of automated systems and robots replacing human labor, reduction of staff positions by transferring some production to external enterprises, periods of economic crisis, changes in the enterprise's activities, cost reduction, changes in consumer demand, and demographic decline affect the outflow of personnel. The dependence of industrial workforce on the country's population is determined. The demographic situation of Ukraine's population is considered, and the main indicators are calculated, namely: the index of the population's numerical strength of Ukraine; the index of the working-age population of Ukraine; the index of the number of permanent employees in the industry. The level of workforce turnover is analyzed, the main groups are investigated, and their main reasons for the high level of workforce turnover are identified, based on components such as personnel needs, employer requirements, external factors, aspects, and factors for investigating the quantitative and qualitative composition of employees. The main consequences of high workforce turnover are determined. It is substantiated that in order to prevent a critical situation with personnel issues in the future, a series of preventive measures have been formulated, which need to be implemented soon for each individual industrial enterprise.

ПРОБЛЕМИ КАДРОВОЇ ПОЛІТИКИ ПРОМИСЛОВИХ ПІДПРИЄМСТВ У ПІСЛЯВОЄННИЙ ПЕРІОД

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Ключові слова:

плинність кадрів,
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причини високого рівня
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кількісний і якісний склад
персоналу підприємства

У статті розглянуто проблеми кадрової політики промислових підприємств у післявоєнний період. Було досліджено кількісний і якісний склад персоналу промислової галузі, чисельність штатних працівників, інноваційна діяльність бізнесу. Зазначено, що персонал виступає основою для розвитку підприємства, забезпечує стабільність промислових підприємств. З'ясовано, що в галузі промисловості кількість штатних працівників постійно зменшується, а на відтік кадрів впливають такі фактори: впровадження автоматизованих систем та роботів, що замінюють людську працю; зменшення штатних позицій шляхом переведення частини виробництва на зовнішні підприємства; періоди економічної кризи; зміни напрямків діяльності підприємства; зменшення витрат; змінами в попиті споживачів; зменшення демографічних показників. Визначено залежність штатних працівників промисловості від чисельності населення країни. Розглянуто демографічний стан населення України та розраховано основні показники, а саме: індекс кількості чисельності наявного населення України; індекс кількості працездатного населення України; індекс кількості штатних працівників у промисловості. Проаналізовано рівень плинності кадрів, досліджено основні групи та виявлено їх основні причини виникнення високого рівня плинності кадрів, які базуються на таких складових

як: потреби персоналу; вимоги роботодавця; зовнішні чинники, аспекти й фактори для дослідження кількісного та якісного складу працівників, встановлено основні наслідки високого рівня плинності кадрів. Обґрунтовано, що для недопущення критичної ситуації з кадровим питанням у майбутньому було сформульовано ряд превентивних заходів, котрі потрібно почати реалізувати незабаром для кожного промислового підприємства окремо.

Statement of the problem

The industrial sector is a crucial component of any country’s economy and plays a pivotal role in societal development and prosperity. In light of military actions within Ukraine’s territory, it is essential to preserve and attract new scientific and technical potential of the workforce, ensure stability in the post-war recovery of the industrial sector, and create competitive products for both domestic and international markets. Currently, a major challenge is the significant outflow of working-age population beyond the country’s borders and elevated mortality rates among men and women of working age. The permanent staff of industrial enterprises plays a critical role across all business aspects – from product quality to corporate culture and innovative business development. The professional knowledge and expertise of employees determine the quality of the products and services provided by the enterprise. High employee qualifications enable effective problem-solving and innovation implementation. Mobilizing all possible resources for the recovery and development of the industrial sector stands as one of the primary tasks in the post-war period.

Analysis of recent studies and publications

The issues of personnel policy at industrial enterprises have been studied by economists and researchers such as Samolyuk N.M. and Yurchyk G.M. [5], Protsyk I.S. and Kara N.I. [4], Yelyseyeva N.A. [2], Shevchenko V.S. [7], Krushelnytska O.V. and Melnychuk D.P. [3], Stepanova E.R., Nazarov N.K. [6], and Shubaliy O.M. [8]. This matter is currently highly relevant and demands further in-depth research.

Objectives of the article

To investigate the state of personnel policy and analyze the key indicators of the quantity and quality of staff in

industrial enterprises. Personnel policy is a fundamental component of industrial enterprises; personnel address all issues, and indicators of activities such as profit, profitability, solvency, capital intensity, capital equipment, and others depend on them.

The main material of the research

Since the country is under a state of war, many statistical data are not accessible in the public domain, and other data are difficult to analyze and systematize due to constant destruction of critical and public infrastructure, losses, and devastation of the Ukrainian population by Russian forces. Therefore, it would be appropriate to conduct research on this issue based on data from the 5 years leading up to 2022.

Work at industrial enterprises can be a significant challenge for many individuals. It often involves physical strain, routine tasks, and monotony. Safety of workers in production environments is a crucial factor, where health risks may arise due to hazardous equipment or materials. Additional factors that complicate work include uncomfortable working conditions, constant stress, and value misalignment. These factors can lead to psychological tension and job dissatisfaction. Work difficulties can be exacerbated by low pay and a lack of opportunities for professional growth. All these aspects make employment at industrial enterprises demanding and challenging for many individuals.

The personnel of a company are a fundamental component of business development and stability in the activities of industrial enterprises. To analyze the state of personnel, it’s necessary to examine two key aspects: quantitative composition and qualitative aspects. Data regarding the quantitative composition of staff in the industrial sector are illustrated in Figure 1.

Analyzing these indicators, it is possible to conclude that the number of permanent employees in the industrial sector is consistently decreasing. This trend could be attributed to various factors, including:

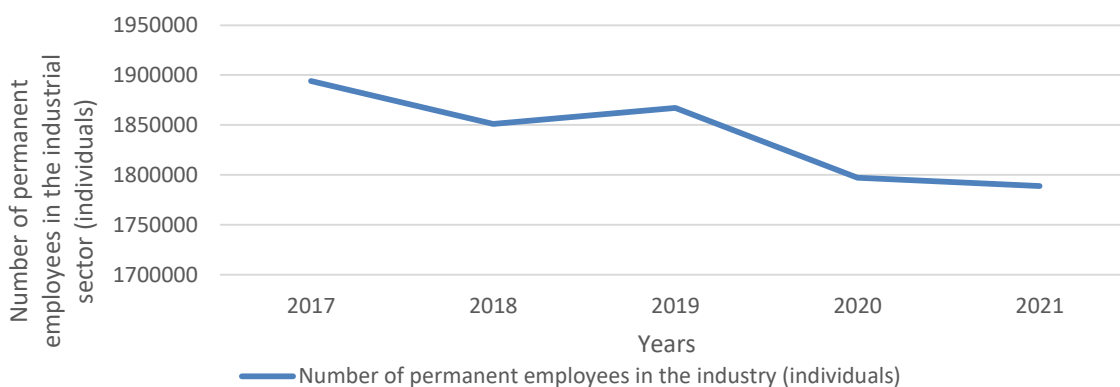


Fig. 1 – Number of permanent employees in the industrial sector (individuals) [1]

1. The implementation of automated systems and robots can reduce the need for manual labor. This leads to the improvement of production processes, reduction in production costs, and the substitution of human labor with automated systems.

2. Industrial enterprises can choose to reduce their workforce by outsourcing a portion of their production or services to external companies specialized in the respective activities.

3. Periods of economic crisis lead to a decrease in demand for products and services, which can compel businesses to downsize their workforce in order to maintain financial stability.

4. A shift in the company’s direction of activity requires a change in the organizational structure to align with the new strategy.

5. Intense competition in the market may necessitate businesses to reduce costs and enhance efficiency, which can result in workforce reductions.

6. Shifts in consumer demand, external conditions, or new technologies significantly impact changes in production processes and the demand for employees.

7. Reduction in the working age population or changes in demographic indicators affect the availability of regular employees for certain industries and other factors.

Due to intense global market competition, businesses must continuously develop and implement new technologies, modernizing their technological processes to achieve lower production costs and improved quality. Therefore, innovative activities play a crucial role in the operations of industrial enterprises, serving as a driving force for progress in their scientific advancements and new products based on innovations incorporated into production. Information about innovation activities in the industry is presented in Table 1.

Analyzing the data from Table 2, an increase in the number of industrial enterprises is observed, which can

be attributed to various factors including economic, technological, social, and political circumstances. As the number of employees decreases while the number of enterprises increases, it indicates the economically viable implementation of innovative methods in the production process, leading to the automation of many work processes and reducing the need for a large workforce. However, a negative aspect is the reduction in the number of jobs.

The dependence of the industrial workforce on the population of the country is closely interconnected. The decrease in the population figures is influenced by various factors, including low birth rates, migration, economic and social factors, low living standards, and other factors. Let’s examine the demographic situation of the population of Ukraine for the years 2017–2021 in Table 3.

For the purpose of illustrating the demographic situation and visualizing the data, the following indicators need to be calculated with respect to the year 2017. For convenience, let’s introduce the following definitions:

– I(PU) – index of the population of Ukraine in relation to the year 2017

$$I(PU) = \frac{\text{current year population of Ukraine}}{\text{population of Ukraine in 2017}} \times 100; \quad (1)$$

– I(LFP) – index of the labor force population of Ukraine in relation to the year 2017

$$I(LFP) = \frac{\text{current year labor force population of Ukraine}}{\text{labor force population of Ukraine in 2017}} \times 100; \quad (2)$$

– I(RWI) – index of the number of regular workers in the industry of Ukraine in relation to the year 2017

$$I(RWI) = \frac{\text{current year number of regular workers in the industry of Ukraine}}{\text{number of regular workers in the industry of Ukraine in 2017}} \times 100. \quad (3)$$

Table 1 – Innovation activities of industrial enterprises [1]

Indicators of Innovation Activities	Years			
	2017	2018	2019	2020
Number of Implemented Innovative Products (units)	2387	3843	2148	4066
Expenditures on Innovations by Industrial Enterprises (million UAH)	2169.8	3208.8	2918.9	3486.3

Table 2 – Number of industrial enterprises in Ukraine [1]

Types of Enterprises	Years				
	2017	2018	2019	2020	2021
Total (units)	42026	44425	47679	47806	49059
Large enterprises (units)	215	237	258	243	292
Medium enterprises (units)	4745	4866	5025	4918	4860
Small enterprises (units)	37066	39322	42396	42645	43907

Table 3 – Demographic Situation of Ukraine's population [1]

Population Indicators of Ukraine	Years				
	2017	2018	2019	2020	2021
Total Population of Ukraine (individuals)	42584542	42386403	42153201	41902416	41588354
Working-Age Population of Ukraine (individuals)	17193200	17296200	17381800	17329900	16617200

The obtained data from the calculations will be presented in Figure 2, using the indicators of the year 2017 as the baseline at 100%.

Figure 2 illustrates the relationship between the population and its working-age population of the country, and the number of full-time employees engaged in the industry. Over a five-year period, Ukraine’s population decreased by 5.55%, the working-age population decreased by 3.35%, and the number of full-time industrial employees decreased by 2.4%.

Assessing the quality composition of personnel is crucial for ensuring the efficiency and successful operation of a company. This process helps identify the strengths and weaknesses of the team of employees, determine development needs, and make strategic decisions to ensure a high level of expertise and qualifications. To conduct an assessment of the quality composition of personnel, it’s important to consider the following aspects:

1. Analysis and evaluation of skills, knowledge, and experience of employees to ensure they possess the necessary expertise for effective job performance and have a sufficient level of professionalism and expertise in their specific fields.

2. The ability of employees to adapt to new conditions, technological changes, and market demands.

3. Assessment of employees’ ability to communicate and interact effectively with colleagues, clients, partners, showcasing their leadership potential and the ability to manage and enhance work processes.

4. Confidence that employees adhere to and embody the corporate culture and values of the industrial enterprise.

One of the important indicators that characterizes the quality composition of personnel is employee turnover. Employee turnover refers to the change of employees due to resignations initiated by themselves or due to termination of the employment contract initiated by the administration [8, p. 175]. The turnover coefficient is determined by dividing the number of employees who left or were dismissed from the enterprise (department, section) during a given period by the average headcount during the same period [8, p. 133]. Employees who meet the requirements of the industrial enterprise and align with the company’s policies are less likely to be dismissed. According to data from Ukraine’s state statistics, Figure 3 depicts indicators of the employee turnover coefficient in the industry.

There is no consensus regarding acceptable employee turnover rates, and typically this indicator varies in different research studies, depending on numerous factors. In their

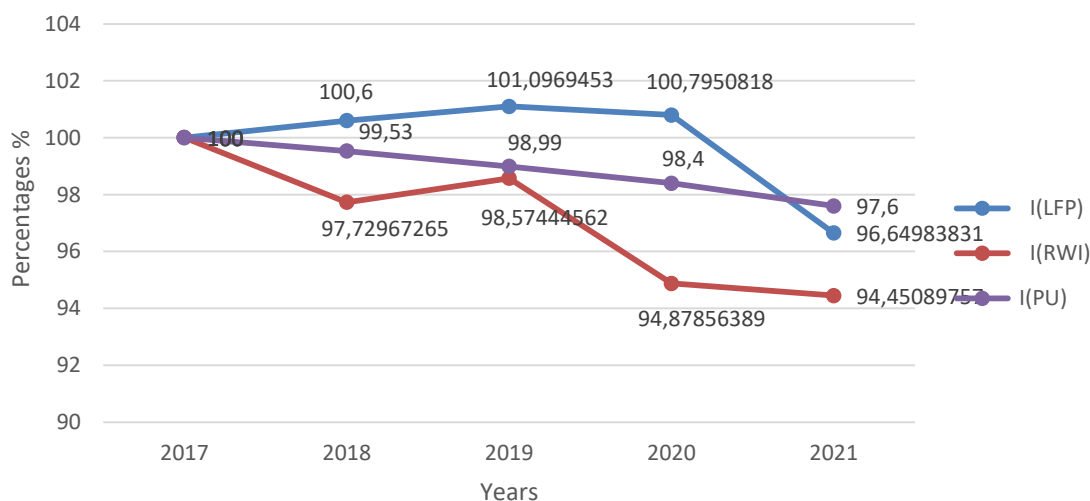


Fig. 2 – Demographic situation of the population of Ukraine

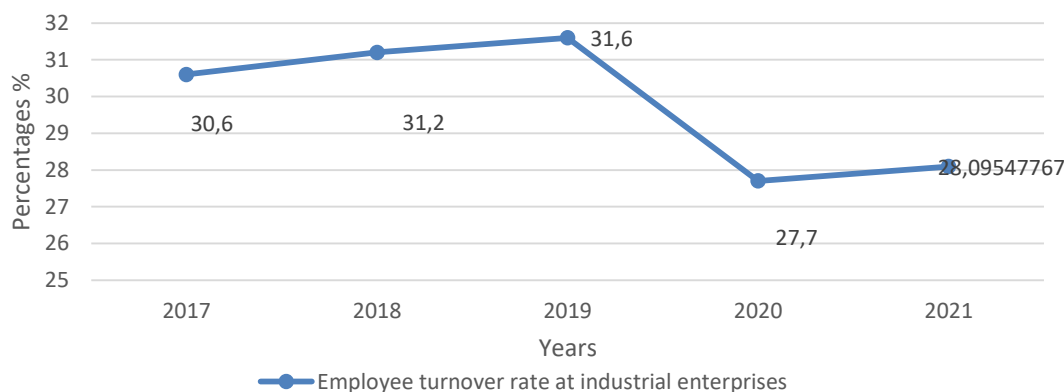


Fig. 3 – Employee turnover rate at industrial enterprises [1]

works, Samolyuk N.M. and Yurchyk G.M. [5] consider the 3–5% range as a normal level of the turnover coefficient, and they regard values exceeding this range as excessive, leading to economic costs. The same opinion is shared by Yeliseieva N.A. [2].

Economists Protsyk I.S. and Kara N.I. also consider a turnover coefficient of 3–5% as a norm that wouldn't result in negative consequences for production. They suggest acceptable rates of 12% for small enterprises and 15% for large enterprises. When the turnover is below 5%, it leads to an aging workforce, limiting the development and acquisition of new experience by employees, which in turn reduces the competitiveness of the enterprise in the market [4].

Stepanova E.R. and Nazarov K.N. differentiate the norm of turnover coefficient for various personnel categories: 3–5% for top management, 5–7% for engineering and technical staff, 10–15% for workers, and up to 20% for unskilled labor [6, p. 17].

Analyzing the works of the aforementioned authors, one can conclude that employee turnover in industrial enterprises is significantly higher than the norm. To understand the current situation, it is necessary to analyze and systematize the main causes of the high turnover rate, as presented in Table 4.

The reasons for employee turnover within a company can be attributed to the three main causes of a high level of staff turnover, namely:

1. Personnel needs. The relationship between the employer and employees, which is a critically important aspect of effective organization. These relationships define the work environment, employee satisfaction, productivity, and the overall success of an industrial enterprise.

2. Employer's requirements. The demands that an employer can place on the personnel are typically determined based on the organization's needs and the specific requirements of individual positions.

3. External factors. External factors have a significant impact on a company's workforce. They encompass

a broad range of external conditions that can influence employees' work, motivation, productivity, and job satisfaction. (Figure 4)

Conclusions

During the investigation of the personnel policy status of industrial enterprises, the issue of a high level of employee turnover in the industry was identified. This leads to the following consequences:

1. Increased costs for recruiting new employees, their training, and onboarding. It also requires time for employees to adjust and acquire the necessary knowledge and skills for effective work.

2. Frequent turnover can disrupt workflow processes, cause instability within the team, resulting in decreased productivity and loss of valuable knowledge and experience that could have added value to the enterprise. It also undermines stability and the ability to innovate within the organization.

3. Increased employee turnover complicates management processes, task distribution, and organization. It also leads to inadequate training of employees in customer interactions, affecting service quality and more.

In the post-war period, the demographic situation is expected to change significantly compared to 2017–2021, and not in a favorable way. Therefore, it is crucial to reduce the number of people leaving their jobs to stabilize and make the industry economically viable. Many experts already emphasize the shortage of professionals in the field. To improve the situation, it's important not to overlook this problem and implement a series of preventive measures and plans at each enterprise, which should include:

1. Introducing additional reward and recognition systems for employees to enhance their sense of importance within the company.

2. Increasing competitive salaries.

3. Organizing training and development opportunities to ensure ongoing professional growth and learning.

Table 4 – Reasons for the high level of staff turnover

Autor	Reasons for the high level of staff turnover
Yelyseyeva N.A.	1. Termination based on legislative grounds in accordance with the Labor Code of Ukraine. 2. Employee's moral and motivational intentions, which are rooted in real reasons that compel employees to make the decision to leave their job. Various factors can contribute to this, such as dissatisfaction with the level of compensation, delays in wage payment, personal circumstances, challenging and hazardous working conditions, unacceptable work schedules, and other factors [2]
Protsyk I.S., Kara N.I.	1. Organizational factors that arise within the enterprise and encompass aspects such as payment, working conditions and safety, opportunities for professional growth, degree of automation and work intensity, psychological climate within the team, conflict levels, corporate culture, human resource management within the organization, and more. 2. Personal factors that include age and gender of employees, level of education, work experience, qualifications, physiological and psychological characteristics and attributes of personnel, and more. 3. External factors independent of the enterprise's strategy, including the economic situation in the country and region, family circumstances, and other external conditions [4]
Shevchenko V.S.	1. Controlled factors. Working and living conditions. 2. Partially controlled factors. Satisfaction with the team, relationships, forms of motivation. 3. Uncontrolled factors. Climatic, demographic, and social factors [7, p. 100]
Krushelnyska O.V., Melnychuk D.P.	1. Family and household circumstances. 2. Dissatisfaction with living and working conditions. 3. Violations of labor discipline [3, p. 160]

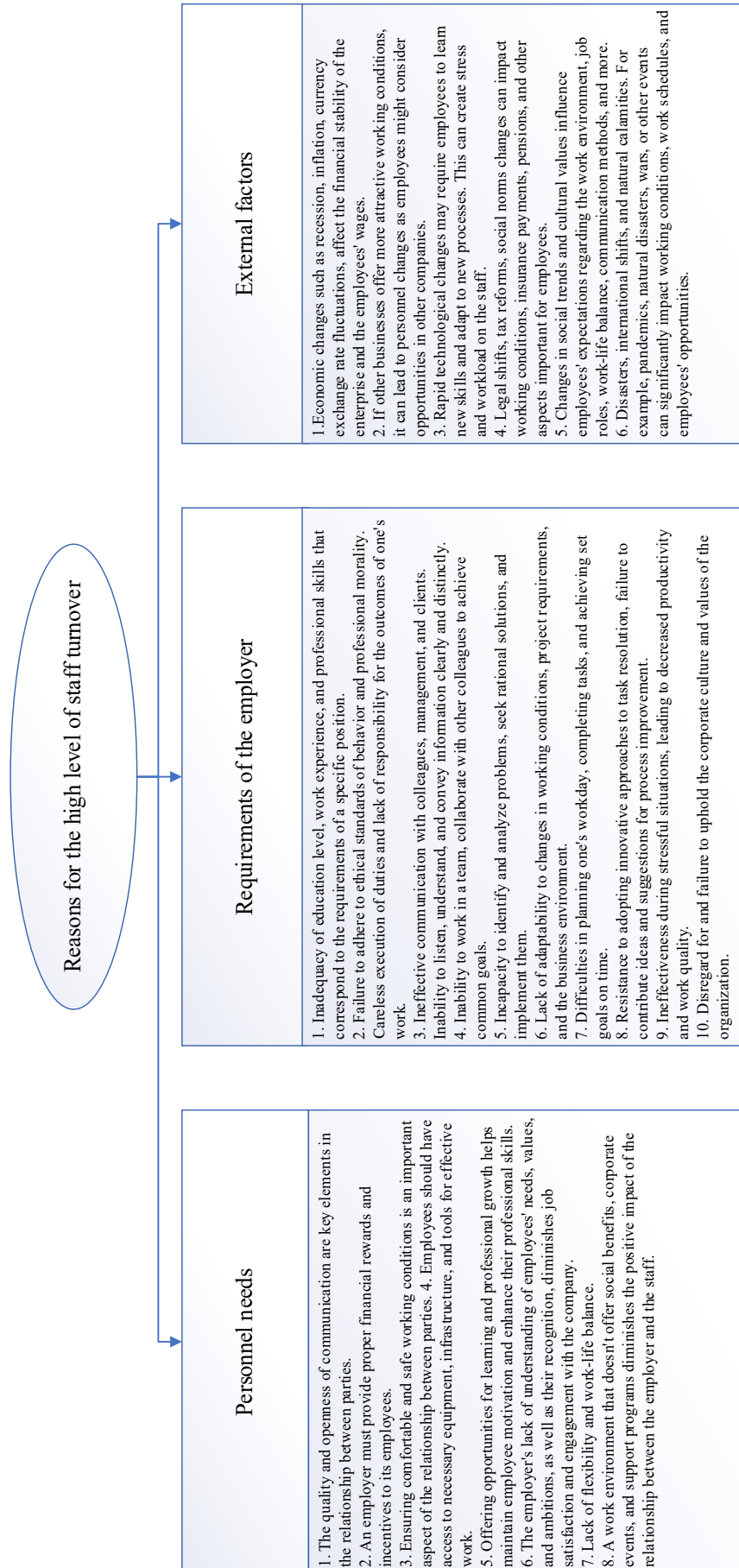


Fig – 4. Causes of high employee turnover

4. Enhancing the quality of the employees' benefits package.

5. Providing safe and comfortable working conditions to increase employee satisfaction and reduce the desire to change jobs due to safety concerns or discomfort.

6. Exploring possibilities for foreign and government investments.

A more detailed investigation of this issue will be possible after the end of the state of emergency and will require analyzing the situation in the country and on each individual enterprise.

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