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Structure of Remuneration as Assessed by Employees of the Energy Sector—Multivariate Correspondence Analysis

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Abstract: Remuneration policy is an element of company management. Remuneration systems should be flexible and evolutionary. They must consider not only the changes in the external environment but, most of all, the changing needs of the internal environment. In practice, this means aligning the company's strategy and goals with the remuneration system. What is more, the remuneration policy must be consistent with all personnel substrategies, which should systematically create integrated human capital management. The aim of our research was to determine how employees perceive the appropriate structure of remuneration and how the relationships between the elements that make up the structure of remuneration are perceived. Energy sector employees were selected for the study, dividing the group of respondents by gender, age and level of education. The obtained data were submitted to multivariate correspondence analysis. The analysis of the perception map for the variables of gender, age and education, as well as the subjective assessment of the components of remuneration, allows the general assertion that both men and women believe that the amount of the fixed part of remuneration should be influenced by such elements as: work efficiency, education, seniority in the current place of employment, position in the hierarchy of the position held, as well as the level of salaries in the labor market. But people aged 60 and over with a vocational education tend to believe that the amount of the fixed part of remuneration should be influenced by collective agreements. Moreover, people aged 25–34 with higher education believe that the granting of additional benefits should not be affected by collective labor agreements.

Keywords: remuneration system; human capital; energy sector; multivariate correspondence analysis



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1. Introduction

The awareness of the essence and benefits of an effective remuneration system means that more and more attention in the company is paid attention to shaping the remuneration policy. It is determined by many factors, but the most important of them is the direct and real impact of the remuneration policy on the results and achievement of the company's goals. Adequate remuneration allows the company to attract and retain very good employees and to motivate them to achieve excellent work results and attain professional development. Such employees allow the company to gain a competitive advantage in the market. Employers more and more often consciously strive to retain the best employees, shaping their behavior and attitudes through social responsibility and responsible reward. Such an approach becomes a driving force of employee involvement and thus a guarantee of achieving good work results and achieving the organization's goals [1–3].

Remuneration of employees is an integral element of management, and at the same time, it is constantly one of its most pressing challenges. We are still looking for a “golden mean” that would satisfy both sides—the employer and the employee. The observed transformations in remuneration systems in companies result mainly from the change in the mentality of employers and employees. Success is achieved if the mentality of the employers is consistent with the ideas of the employees. The problem arises in the reverse situation, when employers do not understand the wage needs of their employees, regardless of whether it is conscious behavior or not. Of course, the situation becomes complicated also when employees report unjustified wage requirements [4–9].

If you look at the enterprise as a system of social relations, the remuneration system should, on the one hand, be a specific form of security for a person, and on the other hand, it should oblige him to perform his duties responsibly. Therefore, it is a two-way relationship. When analyzing the remuneration systems of enterprises, despite the wide access to knowledge in this field, the lack of integration of remuneration policy with personnel policy is still noticed and manifested by the use of outdated remuneration tools, wage rigidity, and even the lack of correlation of work results with salary. Employers are often mistaken in the belief that the key to effective remuneration is the amount of remuneration. This orthodox approach turns out to be incorrect in practice. The essence of an effective employee remuneration system is the right instruments and the ability to assemble and use them. Therefore, an important aspect of remuneration policy is the remuneration structure. The aim of our research was to find an answer to the question of how employees perceive the appropriate remuneration structure. This overall goal raised another question: how are the relationships between the elements that make up the pay structure perceived? The research was carried out on the example of the energy sector in relation to the gender, age and level of education of the respondents. For the purposes of the research, the following research hypotheses were formulated:

Hypothesis 1 (H1). *The perception of the components of remuneration depends on the gender of the respondents.*

Hypothesis 2 (H2). *The perception of the components of remuneration depends on the age of the respondents.*

Hypothesis 3 (H3). *The perception of the components of remuneration depends on the level of education of the respondents.*

The remainder of the article is structured as follows. Section 2 provides a theoretical basis in the form of a literature review. In this part, we consider how the issue of remuneration structure is presented in the literature and what research was carried out in this area. In Section 3, a correspondence analysis was carried out using the data from the empirical research we conducted. The results of the analysis are discussed in Section 4. Finally, we formulate our conclusions.

2. Literature Review

Remuneration of workers is an issue that has been of interest since antiquity, and even then, the first attempts to formulate certain principles of wage motivation were made. Many of the thoughts of that time have survived to this day and are reflected in the development of some theories. The most interesting remuneration rules created in antiquity are, for example, that 2700 years BCE, the Egyptians emphasized that there is a need for honesty in management, including in the area of remuneration. Setting of a minimum wage, as done by Hammurabi (creator of the power of the Old Babylonian state, author of the Code of Laws) in 1800 BC, is still practiced today, as is the use of wage incentives to increase worker productivity, which was first introduced by King Nebuchadnezzar (fourth king of Babylon). However, the first comprehensive set of compensation rules was presented by Greek writer Xenophon. In modern times, only in the thirteenth century, scholastic

philosopher Thomas Aquinas created the principles underlying the theory of a fair price and in this, as it turned out, the universal principle, which is still valid today, according to which the wage should equal the quantity and quality of the work performed. The classical economics trend has brought another significant concept of remuneration. It is worth highlighting the contribution of David Ricardo and his pioneering attempts to value work to this concept, leading to the creation of a model of wage levels. In the times of the industrial revolution, the achievements of Frederick Taylor, who introduced a piecework pay system, making the amount of remuneration dependent on the productivity of the employee was significant. At the beginning of the 20th century, the first attempts at normalizing work and still relatively primitive methods of evaluating work emerged. An important concept, which is still leading today, was the promotion of employee participation by Peter Drucker (neoclassical school), assuming that it influences the motivation and performance of the employee [1].

Nowadays, the remuneration system is a complex set of elements. It consists of both non-financial elements, e.g., praise, symbolic rewards, and financial elements, e.g., basic salaries, bonuses, awards, non-wage benefits. Of course, a properly shaped remuneration system is only an element of the entire human capital management system within an organization, including recruitment and selection, competence development, promotion, etc. The structure of the entire system must also meet the requirements of non-discrimination for non-professional reasons and an individual approach to employees [10].

The theory of human capital management offers a very rich set of instruments for researching the value of work, determining the amount of variable remuneration and creating non-wage benefits systems. The basic tool for studying the difficulties of work, i.e., job evaluation [11–13], has over 100 years of practice in use. Particular evaluation methods include various criteria, e.g., Hay's method takes into account professional knowledge (know how), problem solving and accountability [14–16]. Other methods take into account, for example, education, professional experience, the position in the hierarchy and work conditions. There are also solutions in which the bases for the differentiation of work are professional competences [17–19]. The last approach is interesting because it combines two views on the value of work, i.e., the value of the job position and the value of competences that the performer of this work—the employee—has at his disposal. The individual remuneration of employees is also determined by the phenomena related to the environment of the organization, i.e., both regional, sectoral and industrial conditions [20–25].

Shortages of competent employees, together with growing competitive pressure, including the need to reduce unnecessary costs, and the simultaneous pressure from employees to increase their salaries and shorten the time devoted to work, make organizations increasingly look for new opportunities to shape the level and structure of remuneration. Simple solutions related to the possibility of cost reduction are running out, and the only way out of the situation comes from the pressure to increase the efficiency of employees' work. This is the only way to meet the expectations of both customers and employees. Classical theories indicate a certain framework for thinking about the phenomenon of motivating and rewarding, starting from paying attention to the introduction of fair and equitably perceived wage solutions [26–28], taking into account the needs of employees [29], using an appropriate combination of motivational and hygienic factors [30], as well as an appropriate motivation strategy and expectations [6,31–35]. On this basis, basic guidelines for effective motivation can be formulated, including using openness to employees and treating them as partners, treating work as an intellectually important challenge that stimulates employees to innovate, promoting independence and professional development and practicing transparency in remuneration. [36,37]. To build an appropriate system, it is necessary to have up-to-date knowledge about the needs of employees and their expectations. It is also important to have efficient formation of employees' opinions based on appropriate communication in a way that combines the need for fairness with the interests of the organization and its employees [38–43]. As shown by research and observation of practice,

appropriate education of employees also plays a significant role, and their understanding of the assumptions of the remuneration system is important to its effectiveness [44].

Remuneration policy is the creation of an appropriate structure of remuneration elements that seeks to find a consensus between the employer's options and intentions and the demands of employees. As the literature cited above shows, research on the structure of remuneration usually focuses on the following issues: what factors influence it, what it should be in terms of employee satisfaction and comparative analyses between sectors or between countries. On the other hand, the problem of employees' awareness of remuneration structure is underestimated. This research gap has become a premise for us but also a challenge to undertake research and initiate a broader discussion on this topic.

3. Materials and Methods

Correspondence analysis uses qualitative data and is used to examine the structure of relationships between categories of variables. Multidimensional correspondence analysis has been extensively described in the literature [45–54]. The methodology was also previously presented in the [55]. This is probably due to the fact that “correspondence analysis solves one of the most difficult tasks, namely it enables the accurate recognition of the coexistence of categories of variables or objects measured on a nominal scale” [56].

The correspondence analysis procedure begins with the transformation of the contingency table into a correspondence matrix (i.e., a matrix of relative counts). Sequentially, the profiles of rows and columns, the mass of rows and columns, and the distance between rows and columns are calculated using the metric χ^2 . Then, it is necessary to find an n -dimensional (usually two- or three-dimensional) space that best represents the points under consideration. The resulting configuration is rotated to maximize the variance explained by each dimension of this space.

The matrix of row profiles mentioned in the previous paragraph is determined by dividing each relative count in the row of the correspondence matrix by the sum of all frequencies in the corresponding row. By analogy, a matrix of column profiles is created. In the next step, the distances between rows and columns should be calculated using the metric χ^2 (weighted Euclidean metric; the weights are the reciprocals of the corresponding average profiles) for the rows, from the formula:

$$\chi^2 = d^2(h, h') = \sum_j \frac{\left(p_{hj} / p_{h^\circ} - p_{h'j} / p_{h'^\circ} \right)^2}{p_{\circ j}}, \quad (1)$$

where:

$d^2(h, h')$ —distance χ^2 between h and h' in a row,

p_{hj} / p_{h° —elements of the row profile,

$p_{\circ j}$ —elements of the average row profile,

$h, h' = 1, \dots, H$;

while for the columns from the formula:

$$\chi^2 = d^2(j, j') = \sum_h \frac{\left(p_{hj} / p_{\circ j} - p_{hj'} / p_{\circ j'} \right)^2}{p_{h^\circ}}, \quad (2)$$

where:

$d^2(j, j')$ —distance χ^2 between j and j' column,

$p_{hj} / p_{\circ j}$ —elements of the column profile,

p_{h° —elements of the average column profile,

$j, j' = 1, \dots, J$;

The next step is to determine inertia, which serves as a measure of variance in the correspondence analysis. Total inertia is a measure of the degree of diffusion of the profiles

around the respective centroid (the point represented by the average row and column profile). It is defined as the weighted average of the distance, χ^2 , between the row and column profiles and the corresponding average profiles. For rows, it is determined from the formula:

$$\wedge_h^2 = \sum_h r_h d_h^2, \quad (3)$$

where:

d_h^2 —distance χ^2 between row and centroid,
 r_h —mass of the row (the sum of frequencies in the row of the correspondence matrix),
 and for columns from the formula:

$$\wedge_j^2 = \sum_j c_j d_j^2, \quad (4)$$

where:

d_j^2 —distance χ^2 between column and centroid,
 c_j —mass column.

To analyze the relationships between a larger number of variables, multivariate correspondence analysis is used. In this method, the classic two-dimensional contingency table was replaced with the Burt matrix. Burt's matrix is created on the basis of a complex matrix of markers (a combination of many sub-matrices corresponding to successive variables). The composite matrix of Z tags has the form:

$$Z = [Z_1 \ Z_2 \ \dots \ Z_Q], \quad (5)$$

where:

$Z_1 \ Z_2 \ \dots \ Z_Q$ —marker matrices of successive variables,
 Q —number of variables.

Burt's matrix, B, is determined from the formula:

$$B = Z^T Z \quad (6)$$

The resulting matrix is a symmetric block matrix. On its main diagonal, there are diagonal matrices that show the number of occurrences of the category of each variable. Outside the main diagonal, there are contingency tables [57] for each pair of variables.

The database consisted of 1957 observations. For the purposes of this study, 32 variables characterizing the perception of the issue of remuneration in the labor market were taken into account. The choice of variables was based on the assumption that they are key to the nature and purpose of the research. The variables were analyzed in relation to gender—SEX, age—AGE and education level—EDU of the respondents. Before starting the correspondence analysis, it was examined whether the examined variables were dependent. As the obtained responses are measured on a nominal scale, the Pearson χ^2 test of independence was used to assess the dependence of the variables. Examination of the relationship between the variable sex and other variables generated contingency tables with dimensions of 2×5 for the variable P10 (remuneration should consist of) and with dimensions of 2×4 for the remaining variables. Importantly, the counts in the contingency tables have always been above 10. The study of the relationship between the variable age and other variables generated contingency tables of 5×4 for the variable P10 (remuneration should consist of) and 5×4 for the other variables. In this case, the counts in the contingency tables were also above 10. The study of the relationship between the variable education and other variables generated contingency tables of 4×5 for the variable P10 (remuneration should consist of) and 4×4 for the remaining variables. In this case, the numbers in the contingency tables were also above 10.

Tables 1–3 show the values of the χ^2 statistic, the probability of rejecting the null hypothesis about the independence of the analyzed variables. All presented variables met the required conditions and were used for further analysis.

Table 1. The statistic value χ^2 —SEX.

	Pairs of Questions	Statistic χ^2 and Probabilities
Sex	P10—remuneration should consist of	59.3649 [0.0000]
	P11_01—the amount of the fixed part of the remuneration should result from the assessment of the immediate supervisor	56.2294 [0.0000]
	P11_02—the amount of the fixed part of the remuneration should result from work efficiency	49.6077 [0.0000]
	P11_03—the amount of the fixed part of the salary should result from education	56.6999 [0.0000]
	P11_04—the amount of the fixed part of the remuneration should result from the length of service in the current company	49.1983 [0.0000]
	P11_05—the amount of the fixed part of the remuneration should result from the position in the hierarchy of the position held	57.6528 [0.0000]
	P11_06—the amount of the fixed part of the salary should result from skills/knowledge	51.2259 [0.0000]
	P11_07—the amount of the fixed part of the remuneration should result from the family situation	51.7836 [0.0000]
	P11_08—the amount of the fixed part of the remuneration should result from the license and professional qualifications	52.2075 [0.0000]
	P11_09—the amount of the fixed part of the remuneration should result from the level of remuneration in the labor market	50.1141 [0.0000]
	P11_10—the amount of the fixed part of remuneration should result from collective labor agreements	52.0606 [0.0000]
	P11_11—the amount of the fixed part of the remuneration should result from the company's financial condition	54.9032 [0.0000]
	P12_01—the amount of the variable part of the salary (the so-called bonus) should result from the assessment of the immediate supervisor	50.8298 [0.0000]
	P12_02—the amount of the variable part of remuneration (the so-called bonus) should result from work efficiency	50.3479 [0.0000]
	P12_03—the amount of the variable part of remuneration (the so-called bonus) should result from the length of service in the current company	49.4863 [0.0000]
	P12_04—the amount of the variable part of the salary (the so-called bonus) should result from the position in the hierarchy of the position held	49.2088 [0.0000]
	P12_05—the amount of the variable part of remuneration (the so-called bonus) should result from skills/knowledge	49.4234 [0.0000]
	P12_06—the amount of the variable part of the salary (the so-called bonus) should result from the family situation	49.4504 [0.0000]
	P12_07—the amount of the variable part of remuneration (the so-called bonus) should result from the license and professional qualifications	52.2424 [0.0000]
	P12_08—the amount of the variable part of the salary (the so-called bonus) should result from the level of salaries in the labor market	53.8284 [0.0000]
	P12_09—the amount of the variable part of remuneration (the so-called bonus) should result from collective labor agreements	55.4769 [0.0000]
	P12_10—the amount of the variable part of the remuneration (the so-called bonus) should result from the financial condition of the company	49.0709 [0.0000]
	P13_01—the amount of additional benefits (e.g., company car, private medical care) should result from the assessment of the immediate superior	52.6768 [0.0000]
	P13_02—the amount of additional benefits (e.g., company car, private medical care) should result from work efficiency	51.3618 [0.0000]
	P13_03—the amount of additional benefits (e.g., company car, private medical care) should result from the internship in the current company	49.4968 [0.0000]
	P13_04—the amount of additional benefits (e.g., company car, private medical care) should result from the position in the hierarchy of the position held	50.2859 [0.0000]
	P13_05—the amount of additional benefits (e.g., company car, private medical care) should result from skills/knowledge	49.6081 [0.0000]
	P13_06—the amount of additional benefits (e.g., company car, private medical care) should result from the family situation	49.2375 [0.0000]

Table 1. Cont.

Pairs of Questions	Statistic χ^2 and Probabilities
P13_07—the amount of additional benefits (e.g., company car, private medical care) should result from the license and professional qualifications	49.6235 [0.0000]
P13_08—the amount of additional benefits (e.g., company car, private medical care) should result from the level of remuneration in the labor market	52.8803 [0.0000]
P13_09—the amount of additional benefits (e.g., company car, private medical care) should result from collective labor agreements	49.4562 [0.0000]
P13_10—the amount of additional benefits (e.g., company car, private medical care) should result from the company's financial condition	52.3487 [0.0000]

Table 2. The statistic value χ^2 —AGE.

	Pairs of Questions	Statistic χ^2 and Probabilities
Age	P10 - remuneration should consist of	704.3673 [0.0000]
	P11_01—the amount of the fixed part of the remuneration should result from the assessment of the immediate supervisor	695.3203 [0.0000]
	P11_02—the amount of the fixed part of the remuneration should result from work efficiency	702.7950 [0.0000]
	P11_03—the amount of the fixed part of the salary should result from education	713.8751 [0.0000]
	P11_04—the amount of the fixed part of the remuneration should result from the length of service in the current company	693.9274 [0.0000]
	P11_05—the amount of the fixed part of the remuneration should result from the position in the hierarchy of the position held	708.2438 [0.0000]
	P11_06—the amount of the fixed part of the salary should result from skills/knowledge	693.4020 [0.0000]
	P11_07—the amount of the fixed part of the remuneration should result from the family situation	697.5720 [0.0000]
	P11_08—the amount of the fixed part of the remuneration should result from the license and professional qualifications	693.4843 [0.0000]
	P11_09—the amount of the fixed part of the remuneration should result from the level of remuneration in the labor market	689.4919 [0.0000]
	P11_10—the amount of the fixed part of remuneration should result from collective labor agreements	699.0921 [0.0000]
	P11_11—the amount of the fixed part of the remuneration should result from the company's financial condition	739.1309 [0.0000]
	P12_01—the amount of the variable part of the salary (the so-called bonus) should result from the assessment of the immediate supervisor	697.3434 [0.0000]
	P12_02—the amount of the variable part of remuneration (the so-called bonus) should result from work efficiency	696.4855 [0.0000]
	P12_03—the amount of the variable part of remuneration (the so-called bonus) should result from the length of service in the current company	710.3193 [0.0000]
	P12_04—the amount of the variable part of the salary (the so-called bonus) should result from the position in the hierarchy of the position held	690.0976 [0.0000]
	P12_05—the amount of the variable part of remuneration (the so-called bonus) should result from skills/knowledge	694.5374 [0.0000]
	P12_06—the amount of the variable part of the salary (the so-called bonus) should result from the family situation	692.7245 [0.0000]
	P12_07—the amount of the variable part of remuneration (the so-called bonus) should result from the license and professional qualifications	704.8206 [0.0000]
	P12_08—the amount of the variable part of the salary (the so-called bonus) should result from the level of salaries in the labor market	695.5331 [0.0000]
	P12_09—the amount of the variable part of remuneration (the so-called bonus) should result from collective labor agreements	711.8998 [0.0000]
	P12_10—the amount of the variable part of the remuneration (the so-called bonus) should result from the financial condition of the company	715.4453 [0.0000]
	P13_01—the amount of additional benefits (e.g., company car, private medical care) should result from the assessment of the immediate superior	695.5007 [0.0000]

Table 2. Cont.

Pairs of Questions	Statistic χ^2 and Probabilities
P13_02—the amount of additional benefits (e.g., company car, private medical care) should result from work efficiency	696.3688 [0.0000]
P13_03—the amount of additional benefits (e.g., company car, private medical care) should result from the internship in the current company	691.5819 [0.0000]
P13_04—the amount of additional benefits (e.g., company car, private medical care) should result from the position in the hierarchy of the position held	703.0117 [0.0000]
P13_05—the amount of additional benefits (e.g., company car, private medical care) should result from skills/knowledge	690.7300 [0.0000]
P13_06—the amount of additional benefits (e.g., company car, private medical care) should result from the family situation	693.7703 [0.0000]
P13_07—the amount of additional benefits (e.g., company car, private medical care) should result from the license and professional qualifications	692.2313 [0.0000]
P13_08—the amount of additional benefits (e.g., company car, private medical care) should result from the level of remuneration in the labor market	690.4739 [0.0000]
P13_09—the amount of additional benefits (e.g., company car, private medical care) should result from collective labor agreements	695.7477 [0.0000]
P13_10—the amount of additional benefits (e.g., company car, private medical care) should result from the company's financial condition	704.6803 [0.0000]

Table 3. The statistic value χ^2 —EDU.

	Pairs of Questions	Statistic χ^2 and Probabilities
Education	P10—remuneration should consist of	178.2186 [0.0000]
	P11_01—the amount of the fixed part of the remuneration should result from the assessment of the immediate supervisor	156.0352 [0.0000]
	P11_02—the amount of the fixed part of the remuneration should result from work efficiency	171.4600 [0.0000]
	P11_03—the amount of the fixed part of the salary should result from education	156.0894 [0.0000]
	P11_04—the amount of the fixed part of the remuneration should result from the length of service in the current company	158.3929 [0.0000]
	P11_05—the amount of the fixed part of the remuneration should result from the position in the hierarchy of the position held	162.5205 [0.0000]
	P11_06—the amount of the fixed part of the salary should result from skills/knowledge	150.8086 [0.0000]
	P11_07—the amount of the fixed part of the remuneration should result from the family situation	224.9362 [0.0000]
	P11_08—the amount of the fixed part of the remuneration should result from the license and professional qualifications	141.2188 [0.0000]
	P11_09—the amount of the fixed part of the remuneration should result from the level of remuneration in the labor market	143.9158 [0.0000]
	P11_10—the amount of the fixed part of remuneration should result from collective labor agreements	166.5771 [0.0000]
	P11_11—the amount of the fixed part of the remuneration should result from the company's financial condition	149.0056 [0.0000]
	P12_01—the amount of the variable part of the salary (the so-called bonus) should result from the assessment of the immediate supervisor	145.4030 [0.0000]
	P12_02—the amount of the variable part of remuneration (the so-called bonus) should result from work efficiency	140.9770 [0.0000]
	P12_03—the amount of the variable part of remuneration (the so-called bonus) should result from the length of service in the current company	203.3143 [0.0000]
	P12_04—the amount of the variable part of the salary (the so-called bonus) should result from the position in the hierarchy of the position held	158.3326 [0.0000]
	P12_05—the amount of the variable part of remuneration (the so-called bonus) should result from skills/knowledge	177.4120 [0.0000]
	P12_06—the amount of the variable part of the salary (the so-called bonus) should result from the family situation	176.7654 [0.0000]

Table 3. Cont.

Pairs of Questions	Statistic χ^2 and Probabilities
P12_07—the amount of the variable part of remuneration (the so-called bonus) should result from the license and professional qualifications	208.0691 [0.0000]
P12_08—the amount of the variable part of the salary (the so-called bonus) should result from the level of salaries in the labor market	172.6457 [0.0000]
P12_09—the amount of the variable part of remuneration (the so-called bonus) should result from collective labor agreements	177.4111 [0.0000]
P12_10—the amount of the variable part of the remuneration (the so-called bonus) should result from the financial condition of the company	142.1100 [0.0000]
P13_01—the amount of additional benefits (e.g., company car, private medical care) should result from the assessment of the immediate superior	160.1367 [0.0000]
P13_02—the amount of additional benefits (e.g., company car, private medical care) should result from work efficiency	169.0443 [0.0000]
P13_03—the amount of additional benefits (e.g., company car, private medical care) should result from the internship in the current company	179.4261 [0.0000]
P13_04—the amount of additional benefits (e.g., company car, private medical care) should result from the position in the hierarchy of the position held	151.8898 [0.0000]
P13_05—the amount of additional benefits (e.g., company car, private medical care) should result from skills/knowledge	180.7753 [0.0000]
P13_06—the amount of additional benefits (e.g., company car, private medical care) should result from the family situation	170.8973 [0.0000]
P13_07—the amount of additional benefits (e.g., company car, private medical care) should result from the license and professional qualifications	176.9970 [0.0000]
P13_08—the amount of additional benefits (e.g., company car, private medical care) should result from the level of remuneration in the labor market	178.4516 [0.0000]
P13_09—the amount of additional benefits (e.g., company car, private medical care) should result from collective labor agreements	179.4310 [0.0000]
P13_10—the amount of additional benefits (e.g., company car, private medical care) should result from the company's financial condition	143.1539 [0.0000]

4. Results and Discussion

Correspondence analysis was carried out on the basis of the Burt matrix with dimensions of 50×50 for sex, 55×55 for age groups and 49×49 for the education level. It should be noted that only those variables that are associated with the categories of the variables concerning sex (SEX), age (AGE) and education (EDU) are presented graphically. The obtained results are presented in two-dimensional graphs (Figures 1–3). On this basis, the relationships between the categories of variables were characterized.

Men (SEX 1) and women (SEX 2) have similar opinions. In their opinion, the amount of the fixed part of remuneration should be influenced by work efficiency (P11_02:1). The respondents are also inclined to the opinion that the amount of the fixed part of the remuneration should be influenced by such elements as education (P11_03:1), seniority in the current company (P11_04:1) and the position in the hierarchy of the position held (P11_05:1) (Figure 1).

The analysis of the relationship between the age of the respondents and the subjective perception of the components of remuneration shows that respondents aged 25–34 (AGE 2) tend to say that the amount of the fixed part of remuneration should not be affected by collective labor agreements, e.g., for miners, teachers (P11_10:2) (Figure 2).

People aged 35–44 (AGE 3) are most likely to believe that the amount of the fixed part of remuneration should depend on the effectiveness of work (P11_02:1). They are also familiar with the opinion that the amount of the fixed part of remuneration should depend on the length of service in the current company (P11_04:1), position in the hierarchy of position held (P11_05:1), as well as the level of education (P11_03:1) (Figure 2).

Employees aged 45–59 (AGE 4) believe that the amount of the fixed part of the remuneration should depend on the level of remuneration in the labor market (P11_09:1), collective labor agreements, e.g., for miners, teachers (P11_10:1), and the assessment of the

immediate superior (P11_01:1). According to this group of respondents, the variable part of the remuneration (the so-called bonus) should depend on such elements as the assessment of the immediate superior (P12_01:1) and the financial condition of the company (P12_10:1). This group believes additional benefits, such as a company car and private medical care, should be granted depending on the company's financial condition (P13_10:1) (Figure 2).

The respondents over 60 years of age (AGE 5) believe that the amount of the variable part of remuneration (the so-called bonus) should be influenced by the position in the hierarchy of the position held (P12_04:1) and collective labor agreements, e.g., for miners, teachers (P12_09:1). They believe additional benefits should be granted depending on the position in the hierarchy of the position held (P13_04:1), as well as on collective bargaining agreements (P13_09:1) (Figure 2).

Figure 3 shows the relationship between the categories of the respondents' level of education and the subjective assessment of the components of remuneration. The respondents with vocational education (EDU 2) believe that additional benefits should be granted on the basis of collective labor agreements (P13_09:1).

People with secondary education (EDU 3) believe that the amount of the fixed part of remuneration should depend on work efficiency (P11_02:1), seniority in the current company (P11_04:1), position in the hierarchy of the position held (P11_05:1), as well as the financial condition of the employer (P11_11:1). According to the respondents from this group, the variable part of remuneration should depend on the financial condition of the enterprise (P12_10:1). In the case of people with secondary education, it is also worth noting that there are also categories P11_09:1 and P11_03:1 within a short distance, and along with the aforementioned categories of subjective assessment of the components of remuneration, in the perception map, they constitute a separate whole (clear grouping). According to the category P11_09:1, the amount of the fixed part of the salary should depend on the level of wages in the labor market, and in the case of P11_03:1 the amount of the fixed part of the salary should depend on the level of education (Figure 3).

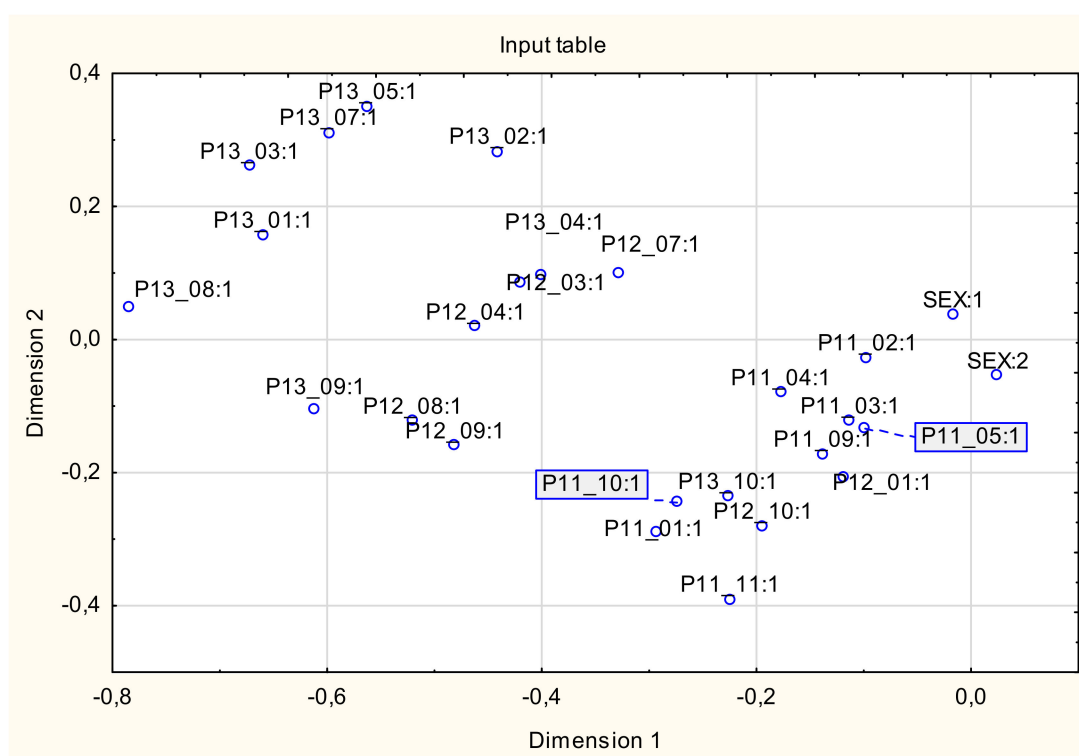


Figure 1. Two-dimensional map of perception for the gender variables and subjective evaluation of the components of remuneration.

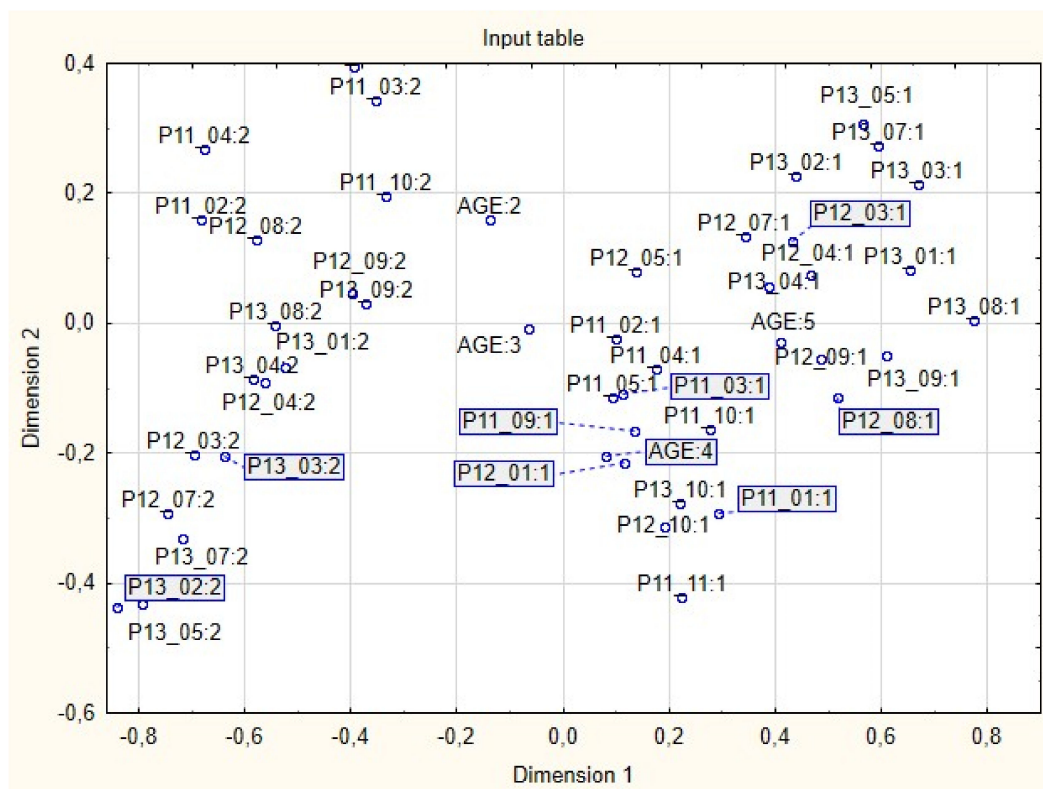


Figure 2. Two-dimensional map of perception for the age variables and subjective evaluation of the components of remuneration.

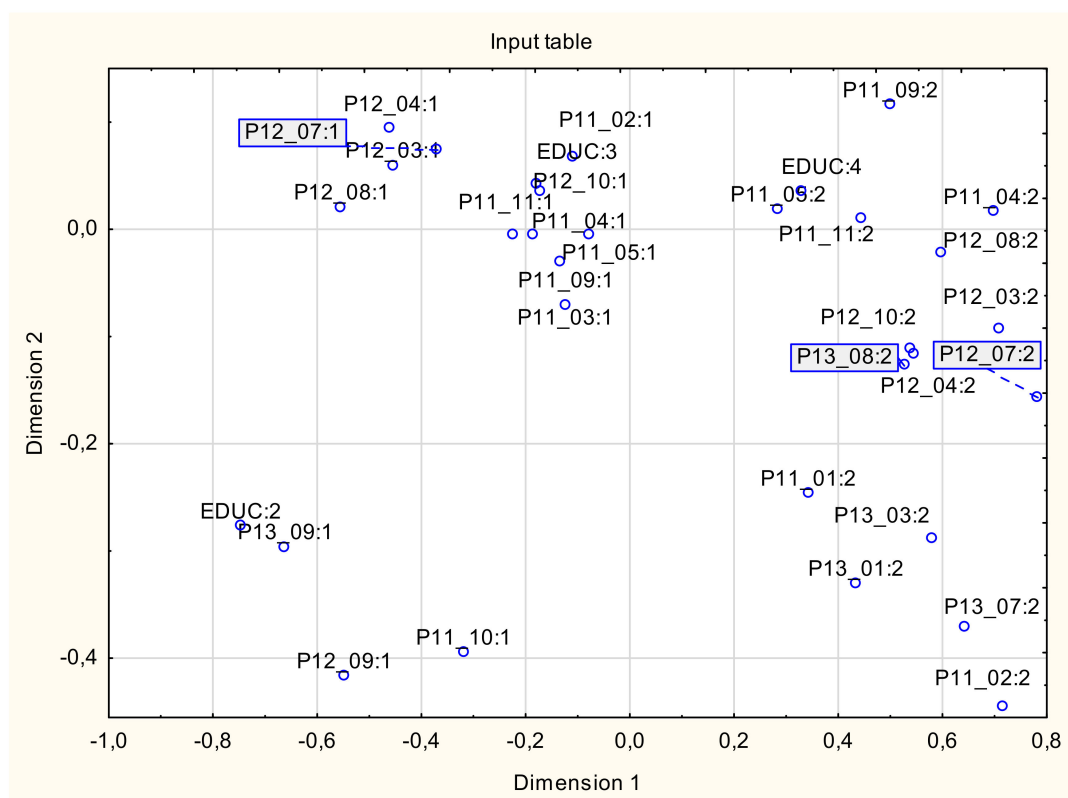


Figure 3. Two-dimensional map of perception for the education variables and subjective evaluation of the components of remuneration.

According to employees with higher education (EDU 4), the amount of the fixed part of remuneration should not be influenced by the position in the hierarchy of the position held (P11_05:2), and the financial condition of the enterprise (P11_11:2) should not affect the amount of remuneration (Figure 3).

Using the closest relationships of the variable categories observed in Figures 1–3, a Burt matrix with dimensions of 37×37 was created to connect the existing relationships (Figure 4).

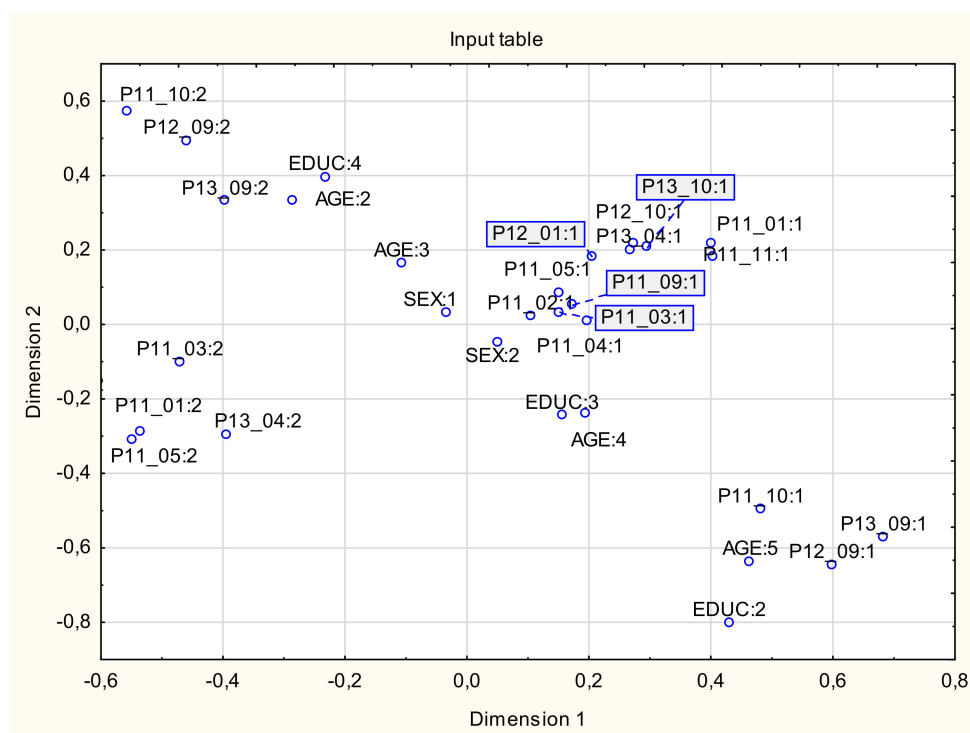


Figure 4. Two-dimensional map of perception for the variables gender, age, education and subjective evaluation of the components of remuneration.

5. Discussion and Conclusions

The aim of our research was to determine how employees perceive the appropriate remuneration structure and to show how the relationships between the elements that make up the remuneration structure are perceived. For the purposes of the research, the following research hypotheses were formulated: H1: The perception of the components of remuneration depends on the gender of the respondents; H2: The perception of the components of remuneration depends on the age of the respondents; H3: The perception of the components of remuneration depends on the level of education of the respondents.

The conducted analyses allow for the statement that the opinions of men and women are similar. Generally, they are consistent with the achievements of the theory in the field of job evaluation and its role in determining the base salary. Opinions on the importance of work efficiency allow us to conclude that the introduction of performance-based wages should be less troublesome. The concordance of opinions also allows for the conclusion that there are no reasons why separate communication activities for women and men should be carried out.

Strict, formal rules making the amount of remuneration dependent on existing rules for large groups of employees are a distant memory. Therefore, the fact that the youngest employees see no reason to use such formalized solutions should be regarded as consistent with our assumptions. Similarly, it is not surprising that the oldest employees, who are used to such solutions, find them appropriate and expect a formalized solution based on the

hierarchy of positions. Middle-aged employees seem to notice both elements resulting from the content of the work, as well as work efficiency, the financial situation of the company and the labor market. This view is most consistent with the achievements of the theory and the best practices identified by management. From the perspective of employing a team of different age groups of employees, it would be beneficial to pay attention to the use of a combination of arguments used depending on the solution and the specific age group of employees. Employees with the lowest level of education seem to prefer more formalized solutions, which makes their opinions similar to those of the oldest working people. People with a higher education do not appreciate the position of positions in the hierarchy and the financial condition of the organization as elements that should differentiate remuneration. Employees with secondary education appreciate both the effectiveness of work, as well as seniority, hierarchy and financial condition of the organization and the situation in the labor market. The above indicates that the introduction of a unified remuneration system for an organization may be supported by various communication activities addressed to groups of people different based on their education level.

The analysis of the perception map in Figure 4 allows us to indicate the following conclusions:

1. People aged 25–34 (AGE 2) with higher education (EDU 4) are of the opinion that the granting of additional benefits (e.g., a passenger car) should not be affected by collective bargaining agreements (P13_09:2). The same group is also inclined to the opinion that the fixed part of the salary (P11_10:2) and the variable part of the salary (P12_09:2) should not depend on collective agreements.
2. Both men (SEX 1) and women (SEX 2) believe that the amount of the fixed part of remuneration should be influenced by elements such as work efficiency (P11_02:1), education (P11_03: 1), seniority in the current place of employment (P11_04:1), position in the hierarchy of the position held (P11_05:1), as well as the level of wages in the labor market (P11_09:1).
3. People aged 60 and over with vocational education incline to the opinion that the amount of the fixed part of remuneration should be influenced by collective labor agreements (P11_10: 1). This group is inclined to the same opinion in the case of the variable part of remuneration (P12_09:1) and additional benefits (P13_09:1).

The research allowed us to positively verify our hypotheses.

The results of our research are similar to the conclusions presented by Strenitzerová and Achimsky [58]. Showing a new perspective on achieving employee satisfaction and loyalty as part of sustainable human resource management, they argue that higher remuneration gives the greatest satisfaction, while the age of employees, as well as the position and length of service strongly affect employee loyalty, which was also shown in other studies [59,60]. Therefore, when shaping remuneration policy, employers should know that the amount of remuneration is a key motivator for the employee. In fact, there is nothing new in this statement, and this issue should be presented differently. Employers should use the amount of remuneration as a motivator instead of using sophisticated motivation tools. Another recommendation is investing in employee loyalty. After all, loyalty is, to a large extent, an imitation of employee satisfaction. Job satisfaction is the basic criterion representing a combination of psychological, physiological and environmental determinants of emotional stability and conscientiousness, which has also been noted by us and others [61]. Employers must remember that loyalty can also be gained when the employer creates conditions for the employee to identify with the company.

It is obvious that the practices of human capital management, including the practices of building and implementing remuneration systems, differ in terms of sectors and industries [62–66]. The public sector, including both public administration and public schools, hospitals, courts and state-owned enterprises, is dominated by highly formalized solutions, and the solutions applied there are usually inflexible. The importance of work efficiency in these organizations does not play a dominant role. In the case of the private sector, there is

a wide variety of industry practices. The solutions used, for example, by banks, commercial companies, IT or logistics companies are similar to each other.

It should also be added that when considering remuneration systems, one cannot look at the energy sector as a monolith; it must be taken into account that it is diverse. As Kirk [67] points out, jobs in the solar and wind energy sectors, on average, pay slightly less than in the fossil fuel sector but offer greater job security.

It follows from the above that the next step to fill the research gap should be research on the awareness and perception of the intersectoral remuneration structure with the use of comparative analyses and research on the effectiveness of communication tools and narratives, both sectoral and intersectoral. Such research, apart from its scientific value, would also be a valuable indication of the practice in the field and for further evolution of the employee remuneration system, but also in a more comprehensive perspective, i.e., human capital management systems. In addition, taking into account the problem of COVID-19, it is worth undertaking research on the impact of the pandemic and lockdowns on remuneration structure, taking into account the specificity of the industry.

The limitation of our research is that we conducted it from a microeconomic perspective. We were interested in the perception of the remuneration system from the employee's perspective. However, we believe that an approach from the perspective of economic policy is a good and interesting idea to continue our research. Consideration can be given to issues such as whether the government can identify measures that will help design wage policy in the private sector and what changes should be made in the public sector in terms of wage structure.

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