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# Working Conditions and Satisfaction of Transport Service Employees

**Abstract**
The transition of the Polish economy has brought about profound changes in the nature of contracts between employees and employers. These changes have been affected by the process of globalisation and dynamic technological progress. In particular, the characteristics of the contracts and the work itself have changed, which has affected the utility derived from employment by employees. The article attempts to identify the factors providing job satisfaction using the example of railway service employees. In particular, factors such as the position held, levels of tension and stress at work, level of autonomy, opportunities for personal development, the level of accordance between employees' skills and job requirements, convenient working hours, length of vacation and the level of social respect enjoyed are important. In the study, an innovative discrete choice experiment method and econometric analysis were used to make a comprehensive examination of the factors providing satisfaction to transport service employees. Conclusions from the study indicate that although remuneration is an important element influencing job satisfaction, other non-wage factors also affect the satisfaction. The most important factors include managerial position, opportunities for personal development and the level of social respect related to the given occupation/position.

**Keywords**
employee satisfaction | employment attributes | labour market | working conditions

**JEL Codes**
J28, J81

## 1 Introduction

The article attempts to identify the factors providing job satisfaction to railway service employees. The problem is important because the transition of the Polish economy has brought about profound changes in the contracts between employees and employers. These changes are affected by the process of globalisation and dynamic technological progress (Mas-Colell et al., 1995). In particular, the characteristics of the contracts and the work itself are different, which affect the utility derived from employment by employees (Liptak, 2011, pp. 1–13). Earlier, employees expected only remuneration for the time devoted to work. Currently, employees have higher requirements for their wage and non-wage benefits that bring them utility in return for their effort, competences, commitment, creativity and the loyalty provided to their employer. Non-wage benefits most often include additional financial benefits, the position held, no tension and stress at work, high autonomy, the possibility of personal development, work in accordance with skills, convenient working hours, long vacation and social respect attributed to the given job position (Atrostic, 1982, pp. 428–440; Gajderowicz, 2016). This means that an adequate analysis of the factors determining the labour supply should also take account the above-mentioned factors not included in the traditional approach. These factors affect job satisfaction and employee involvement, which in turn translate into the efficient operation of an organisation. Therefore, increasing numbers of organisations want to ensure high employee morale and undertake research on the satisfaction and commitment of their employees (Drucker, 1999).

The aim of this study is to identify the factors providing satisfaction to transport service employees. The inspiration to take on the topic of factors influencing employee satisfaction was a review of the empirical research and literature. The review of empirical research serves two purposes: to identify the employment attributes studied in the literature and to review the applied research methods. The review of the empirical research allowed us to define the important attributes taken into account in our own empirical analysis. On the other hand, the review of the research methods used previously allowed for the selection of the methodology that was used to achieve the set goals. On this basis, the following research questions (RQs) have been posed:

> **RQ1: Does salary significantly influence employee satisfaction in the case of transport service employees?**
>
> **RQ2: Do factors other than salary significantly affect the job satisfaction of transport service employees?**
>
> **RQ3: Do the workplace characteristics have a significant impact on transport service employees' satisfaction?**

Previous studies were based on the use of simple mathematical statistical methods and regression models, where the parameters were most often estimated using the least squares method (Hackman & Oldham, 1976; Atrostic, 1982; Garcia & Molina, 1999). The variable related to job characteristics was primarily described by the determinants of earnings or declared job satisfaction. The most important problems in previous research which used jobs' and workers' characteristics included the following: identification of the dependent variables, selection of the independent variables and the lack of information about alternatives and the respondent's situation at the time of making the employment decision (Hackman & Oldham, 1976; Atrostic, 1982; Garcia & Molina, 1999). Therefore, in the study described in this article, an innovative discrete choice experiment (DCE) method and econometric analysis were used to make a comprehensive examination of the factors providing satisfaction to transport service employees. In the econometric analysis, the ordered logit model was used, where estimates of the parameters of the employment utility function were obtained.

The article consists of four parts. Following the Introduction, Section 2 of the article discusses the basic socio-economic mechanisms that result in concluding employment contracts and presents the theoretical considerations of the decision to take up and maintain employment. This part of the article also reviews the empirical research dealing with the issue of utility gained by employees from accepting employment contracts. The next part (Section 3) describes the methodology used in the study, and Section 4 is devoted to the analysis of the research results. The final part of the article, Section 5, discusses the conclusions derived from the analysis.

# 2 Theoretical Background

## 2.1 Heterogenisation of the employment contract

Globalisation has opened up the finance, commodity and service markets. The opening of the economy is associated with lower costs of transport, communication and technology development; expansion of transnational corporations; and the growing interdependence of economies related to the new organisation of the value-added chain, among other things (Costinot, Vogel, & Wang, 2013, pp. 109–144). The main phenomena determining the trends in the observed changes are technological progress and the reduction of barriers to international trade.

Technological progress entails changes in the organisation of work. Originally, production was based on performing simple work (Bhagwati & Dehejia, 1993) , but now, it has been replaced by methods characterised by high use of human capital. As a result of these changes, the importance of the knowledge, qualifications and competences of employees has increased. Due to technological progress, in the modern economy, workers have become carriers of capital, not labour, which was the case in traditional labour market models (Drucker, 1999). Technological progress also influences the labour market through routinisation (schematisation), modularisation (mass production of components) and standardisation (standardisation of processes) and, on the other hand, through task specialisation and the requirements of employers towards employees (Nicholson, 2004, p. 78). Each of these processes entails fundamental changes in the characteristics of contracts in the labour market, with the traditional form of contract being gradually replaced by flexible forms of employment, i.e. a specific task contract, contract of mandate, civil law contract, self-employment, and so on.

In the simplest terms, the employment contract has both economic and psychological aspects. The economic aspect is defined as all financial benefits resulting from the employment relationship, which are included in a contract. The psychological aspect can be understood as an unwritten set of mutual expectations between an employee, an organisation and its members. Thus, a contract in the labour market is a multidimensional concept. It entails a number of expectations and obligations that determine the satisfaction of an employee and an employer in a mutual relationship. Most of the psychological dimensions of an employment contract are immeasurable and therefore difficult to statistically document. There are, however, some basic frameworks within which the economic aspect of an employment contract can be described. The standard employment contract includes the following basic information (Liptak, 2011, pp. 1–13):

- subject of labour (time or product);
- amount of work performed (expressed in time or in product);
- organisation of the work process;
- durability of a contract;
- benefits for an employee offered by the employer;
- employment protection and insurance.

In addition to the aforementioned formal dimensions of a contract, there are a number of others that determine the mutual satisfaction of the parties and thus explain the fact of the creation and durability of employment.

Dynamic globalisation processes make enterprises adapt in many aspects. The most important of them is the transformation of labour demand, where the size, structure and characteristics of this demand vary (Costinot, Vogel, & Wang, 2013, pp. 109–144). As a consequence of globalisation, an increased risk of doing business, mostly related to the increased volatility of the demand for the final goods, is noticeable. In the long run, this leads to a new understanding of the comparative advantages resulting from the possibility of adapting the labour resource as a result of heterogenisation of an employment contract. The new organisation of the labour market related to these processes contributes to its segmentation (Costinot, Vogel, & Wang, 2013, pp. 109–144). As a result of these changes, highly qualified specialists in narrow fields are sought. The work efficiency of specialists is particularly high if they perform activities strictly adequate to their competences. Another group of employees sought after in the labour market are those who can perform simple jobs and constitute a relatively homogeneous and low-paid workforce, usually without the possibility of promotion.

Flexible forms of employment have also developed dynamically in the labour market. They are associated with the transfer of risk to employees and the reduction of fixed production costs. This type of employment includes civil law contracts, remote and part-time work and hiring employees through temporary employment agencies (Liptak, 2011). Work organisation has also changed and involves increasing the share of part-time employment, flexible working hours, multitasking and the simultaneous implementation of several projects according to the market demand (Liptak, 2011, pp. 1–13). Employers' needs for greater flexibility of labour resources have met with the technical development of the possibility of providing work in a non-standard way (e.g. remote work). This, in turn, has contributed to the activation of social groups previously excluded from the labour market (such as individuals with disabilities, the elderly and women on maternity leave), for whom undertaking work under traditional conditions was associated with an excessive opportunity cost. Therefore, making the forms of employment more flexible and diversified is associated with mutual benefits. At the same time, it serves to meet the needs of employers in terms of the flexibility of managing labour demand in order to maintain a competitive position in the modern economy and allows individuals who were previously professionally inactive to become more active.

The changes taking place in the economy also have negative consequences. They mainly concern the supply side of the labour market (Liptak, 2011). For a part of the workforce, the above-described processes are mostly associated with a decline in the security and stability of employment. This has important economic, as well as psychological and social, consequences. It should also be emphasised that making the employee–employer relationship more flexible also brings problems for employers. The most serious of them is the reduced effectiveness of investments in specific human capital, higher costs for recruiting employees and increased costs related to employment rotation.

The multiple forms of employment contracts are reflected in the development of economic thought. Almost all the progress in modelling the labour market in recent years concerns the heterogeneity of the parties to an employment contract. The search theory explains how heterogeneous employers search for heterogeneous employees, bearing the transaction costs of this process, and how job candidates look for suitable offers (Mortensen, 1986, pp. 849–919). In the classical approach, this heterogeneity only referred to the amount of productivity and remuneration. In later analyses, the search is presented as a whole set of relations characterising the costs and benefits for both parties (Sullivan, 2014, pp. 472–507).

In theoretical terms, the goal of the labour market is general social welfare (Jemielniak & Latusek, 2005). Increased heterogeneity of employment conditions may be beneficial to society, and an increased variety of forms of employment should lead to a situation in which it is possible to achieve equilibrium. The state of equilibrium will be reached only when the heterogeneous connections of employees and employers are characterised by such a composition of contractual terms that, on the one hand, it entails low costs from the employer's point of view, and on the other hand, it brings the highest possible level of job satisfaction derived by an employee. An increased overall level of welfare results from the fact that an increased variety of forms of employment theoretically increases the number of dimensions in which it is possible to optimise contracts.

In fact, there are problems with coordination due to the asymmetry of information between the demand and supply sides (Mortensen, 1986). As a consequence, information asymmetry may prevent optimal allocation from being achieved. The effects of the heterogenisation of employment conditions will also vary depending on the balance between supply and demand in the labour market. Depending on the general situation in the labour market, the changes may bring net benefits to employees or transfer the employer's risk to them.

## 2.2 Review of the previous empirical research

Earlier, working time and remuneration were the basic attributes of employment. Currently, employees look for more attractive employment attributes in the labour market. One of the first studies in this area was conducted in 1976 by Hackman and Oldham using the job characteristic model (Hackman & Oldham, 1976, pp. 250–279). The study identified three mental states of an employee: a sense of meaningfulness (perceiving one's work as important and meaningful); a sense of responsibility; and knowledge of outcomes (or knowledge of work results). The listed states are evidence of job satisfaction and internal motivation. In order for the desired mental states to occur, employment should be characterised by key features, such as skill variety, task identity, task significance (the degree to which work influences the life or work of other people), autonomy (the degree of freedom with which a person has the ability to shape the way of performing tasks) and feedback (obtaining an assessment from institutions, superiors, colleagues or clients).

The empirical research confirms the influence of work characteristics on the sense of job satisfaction and the motivation of respondents. However, there are some methodological problems regarding the obvious correlation of job characteristics and a sense of job satisfaction.

The study entitled 'The Demand for Leisure and Nonpecuniary Job Characteristics' (Atrostic, 1982, pp. 428–440) describes the determinants of the declared utility derived from work by employees. Satisfaction with employment was measured by assessing the respondent's compliance with the statements regarding the benefits obtained from the work performed. The following employment attributes were considered: subjective assessment of satisfaction with the achieved professional position; training and professional development opportunities; satisfaction with adjusting work to employee expectations; degree of responsibility burden; degree of being subject to time pressure; complexity and difficulty of entrusted tasks; atmosphere in the team; and satisfaction with received remuneration. Moreover, 16 zero–one variables describing job characteristics were taken into account, which, according to the respondents, proved to be crucial in making the decision to take up their current employment. Among them, the following were distinguished: autonomy at work, prospects for financial success, amount of free time, employment stability, the possibility of helping others, compliance of the nature of work with the respondent's education, the possibility of working with people, interpersonal relations, remuneration including benefits, compliance of work with interests, the ability to face challenges, the possibility of continuing the family business and social status obtained through employment. The conducted study is distinguished by a wide range of attributes included in the analysis. It should be borne in mind that these measures were only based on responses relating to motivation at the time of making the employment decision.

The research conducted by Garcia and Molina (1999, pp. 189–204) takes into account the factor of occupational prestige as a determinant of utility derived from employment. Prestige is perceived in both social and personal aspects. In the social aspect, prestige results from the social position, and in the personal aspect, it is synonymous with recognition and respect. Prestige relates to a specific person and has its source in the way he/she fulfils a given social role and his/her personal characteristics. Currently, prestige is one of the basic factors motivating employees (Domański, 1999). The study used the method of multi-step estimation procedures. The authors analysed the processes of making professional decisions by Spanish workers. Decisions were made based on the offered remuneration and non-wage employment benefits. The study used a generalised linear expenditure model and the two-step Heckman correction. The following research stages were distinguished:

1. The selection of individuals was modelled to the working population (i.e. the group for whom information on remuneration was observed).
2. The parameters of a hedonic wage equation were estimated depending on the features of the work available in the database for three subgroups of employees.

Consequently, the results of the research made it possible to calculate the financial value of compensation for worse working conditions.

The study was conducted using simple methods of mathematical statistics and regression models, where parameters are most often estimated using the least squares method. The variable related to job characteristics was mainly described by the determinants of earnings or declared job satisfaction. In these models, the dependent variable was most frequently wage per hour of working time (or its logarithm), and socioeconomic variables were among the independent variables. The most important problems of the research included the following: identification of the dependent variable, selection of independent variables and the lack of information about alternatives, and the respondent's situation at the time of making a decision about employment.

Scott used the conditional choice method for the first time in the study of preferences towards employment in 2001. He investigated preferences of nurses towards work depending on the characteristics of the offered employment (Scott, 2001, pp. 329–347). The conditional choice method involves formulating sets of hypothetical alternatives, where a respondent selects the most preferred answer. This method assumes that the *ceteris paribus* condition is met, along with the features describing the alternatives. The questionnaire survey solves the problem of variables omitted in the model because in this approach, the estimation of the parameters of the utility function derived from specific levels of attributes describes the alternatives presented to respondents. The aforementioned method was also used by Janicka (2013), who examined the decision to take up employment and analysed the determinants of employing immigrants in simple jobs and in particularly low-prestige professions. The author estimated the parameters using the random parameters logit (RPL) model and the multinomial logit (MNL) model. The RPL was used for the first time in Polish labour market research.

The above-mentioned method was also used by Gajderowicz in his empirical study entitled *Korzyści z zatrudnienia. Dekompozycja i wycena* [Benefits of Employment: Decomposition and Valuation] (Gajderowicz, 2016). The research process involved selecting attributes and constructing a form using qualitative research, conducting a pilot study and carrying out a study with the DCE method using a computer application on >800 students and graduates of social studies at Warsaw universities, aged 21–30 years (Gajderowicz, 2016, pp. 108–153). Using the DCE method, pecuniary estimates of the value of individual levels of work attributes were obtained. It also defined which features of employment are particularly important for potential employees and help them decide about taking up a job. The modelling covered, in particular, the preferences regarding non-wage benefits, features of the job and type of work, job prospects and the method of using working time. The utility function parameters were estimated using the MNL and RPL models. In the econometric analysis, the MNL model was used, where estimates of the parameters of the utility function derived from employment with particular characteristics were obtained. Moreover, the RPL model was used to obtain estimates of the parameters of their statistical distribution. Then, the differentiation of preferences towards employment in the sample was discussed. Finally, wage thresholds were calculated taking account of the non-wage features of employment; in other words, the individual levels of employment attributes were valued in financial terms. The research results show that decisions regarding work and the utility derived from it depend directly on the following: non-wage financial benefits provided by an employer, type of contract, method of payment of remuneration, benefits related to work performance and individual external benefits (development opportunities, prestige of the position held). Another category comprises the physical aspects of the performed work (working time, travel time, pleasure from the tasks performed), as well as the mental conditions of performing entrusted tasks (team atmosphere, as well as levels of stress and control). The study showed that the financial value of utility derived from individual employment characteristics was significant in relation to the average market wage during the study period. The valuation of some of the attribute levels exceeded half of the average market remuneration in the analysed period, which proves that non-wage streams of benefits can actually determine the utility derived from employment. To sum up, non-wage streams of benefits may actually decide about starting, maintaining and supplying work.

A review of research described in the literature reveals that the assessment of utility derived from work examined with the DCE method has practical applications. By determining the parameters of the utility function, it is possible to construct offers that bring a candidate a higher job utility at particular employment costs.

# 3 Methodology

## 3.1 Econometric analysis of data on intangible goods

The -MNL model is the econometric tool used to estimate the parameters of the preference models (McFadden & Train, 2000). Modelling of preferences has its source in the random utility model, where consumers make choices between alternatives based on preferences included in the utility function in the following form (Czajkowski, 2008):

$$U_{ji} = \beta' x_{ij} + \varepsilon_{ij}$$

where $\beta$ is a vector of utility function parameters and $x$ is a vector of consumer-relevant attributes $i$.

The utility can therefore be divided into the sum of the observable deterministic part $V_{nj} = \beta * x_{ij}$ and the unobservable part $\varepsilon_{nj}$. The logit formula is based on the assumption that $\varepsilon_{nj}$ has independent and identical distributions for each respondent and alternative. If Ɛ meets the independent and identically distributed (IID) assumption, the difference between $\varepsilon_{nj}$ and $\varepsilon_{nj}$ is given by the following logistic distribution (Czajkowski, 2008):

$$F(\varepsilon^*_{nji}) = \frac{e^{\varepsilon^*_{nji}}}{1+\varepsilon^*_{nji}}$$

The probability of choosing an alternative $i$ by consumer $n$ can be written as follows (Czajkowski, 2008):

$$\begin{aligned} P_{ni} &= Prob\left( V_{ni} + \varepsilon_{ni} > V_{nj} + \varepsilon_{nj} \quad \forall\, j \neq i \right) \\ &= Prob\left( \varepsilon_{nj} < \varepsilon_{ni} + V_{ni} - V_{nj} \quad \forall\, j \neq i \right) \end{aligned}$$

It follows from the assumption about the independent random component that the cumulative distribution of this probability will be the sum of individual cumulative distributions:

$$P_{ni} \mid \varepsilon_{ni} = \prod e^{-e^{-(\varepsilon_{ni} + V_{ni} - V_{nj})}}$$

Since Ɛ is unknown, the probability of choosing an alternative can be expressed as follows (Czajkowski, 2008):

$$P_{ni} = \int \left( \prod e^{-e^{-(\varepsilon_{ni} + V_{ni} - V_{nj})}} \right) e^{-\varepsilon_{ni}}\, e^{-e^{-\varepsilon_{ni}}}\, d\,\varepsilon_{ni}$$

After multiple transformations, the above equation can be written as follows:

$$P_{ni} = \frac{e^{V_{ni}}}{\sum_j e^{V_{nj}}}$$

The probability that consumer $i$ will choose alternative $j$ from the $J$ available alternatives can then be written as follows (Czajkowski, 2008):

$$P(\forall_{q \neq j}\, U_{ij} > U_{iq}) = \frac{\exp(\beta' x_{ij})}{\sum_{q=1}^{J_i} \exp\left(\beta' x_{iq}\right)}$$

The above equation is the basis for formulating a model for the problem under study. Assuming that employment utility is influenced by work attributes (based on the list of attributes identified in our empirical study: managerial position [SKR], seniority

[STZ], age [WIK], lack of tension and stress [BNS], high autonomy [DZS], the opportunity for personal development [MRO], work in accordance with skills [PZU], convenient working hours [DGP], long vacation [DŁU], the level of social respect related to the job [ZPL] and adequate pay [ODP]), the utility of choosing job offer *j* takes the following form:

$$U_j = \beta_1 SKR_j + \beta_2 STZ_j + \beta_3 WIK_j + \beta_4 BNS_j + \beta_5 DZS_j + \\ + \beta_6 MRO_j + \beta_7 PZU_j + \beta_8 DGP_j + \beta_9 DŁU_j + \beta_{10} ZPL_j + \\ + \beta_{11} ODP_j$$

If the assumptions of the MNL model are met, the probability of choosing an alternative *j* from among the *J* alternatives can be written as follows:

$$\frac{e^{-(\beta_1 SKR_j + \beta_2 STZ_j + \beta_3 WIK_j + \beta_4 BNS_j + \beta_5 DZS_j + \beta_6 MRO_j + \beta_7 PZU_j + \beta_8 DGP_j + \beta_9 DŁU_j + \beta_{10} ZPL_j + \beta_{11} ODP_j)}}{\sum_q^j \left(e^{\beta_1 SKR_j + \beta_2 STZ_j + \beta_3 WIK_j + \beta_4 BNS_j + \beta_5 DZS_j + \beta_6 MRO_j + \beta_7 PZU_j + \beta_8 DGP_j + \beta_9 DŁU_j + \beta_{10} ZPL_j + \beta_{11} ODP_j}\right)}$$

The MNL model has its limitations. It only reflects differences in preferences regarding the observed characteristics, but it does not account for the variance resulting from unobserved aspects. Based on the MNL model, it is possible to draw conclusions about the dynamics of preferences only in a situation where the unobserved variables are not correlated with time. If the random part of utility is correlated with time, the model has no proper specification. The assumption of the MNL model shows another limitation, saying that utility is independent of other alternatives presented to a respondent. The last objection concerns the results of models of the same class. The results only show the proportion of utility derived from particular attribute levels, making it possible to calculate the marginal rates of substitution (MRS) between attributes, and it is impossible to interpret the parameters without referring them to each other (Train, 2009). In summary, the MNL model is the basic tool for the econometric analysis of choices. However, due to its restrictive assumptions, it does not allow for modelling the heterogeneity of consumers' preferences, the uncertainty of their choices and irrationality.

## 3.1. Research sample and hypotheses

Job satisfaction and employee commitment are important aspects of the efficient operation of an organisation. Therefore, increasing numbers of organisations want to ensure high employee morale and undertake research on the satisfaction and commitment of their employees. Job satisfaction and commitment to work are symptoms of complex processes taking place inside an organisation. For this purpose, direct employee satisfaction surveys were conducted with the employees of a selected transport service provider. The following satisfaction factors were used in the study: managerial position, seniority, employee age, lack of tension and stress at work, high autonomy, possibility of personal development, work in accordance with skills, convenient working hours, long vacation, tasks respected by people and adequate pay. The selection of attributes for the empirical study was made on the basis of attributes recognised in the literature. When selecting the attributes, the direct benefits of employment (physical and mental conditions of work performance: lack of tension and stress at work, high autonomy and work in accordance with skills) and indirect, related to the fulfilment of needs in the long term (possibility of personal development, convenient working hours and long vacation). Thus, the employee's level of job satisfaction consisted of utility derived from pay and other forms of remuneration (obtained directly from the employer), as well as utility derived from physical and mental conditions in which work tasks are performed.

Based on the distinguished satisfaction factors, the following RQs were asked: Is employee satisfaction significantly influenced by pay? Do factors other than pay significantly affect the job satisfaction of employees of the transport company? and Does a job position significantly affect employee satisfaction?

The data obtained for the study was based on a survey conducted in one of the companies providing transport services. An online survey was used in the empirical study. Then, the focus was placed on building a questionnaire containing questions that will be submitted to respondents during the study. The first rule regarding the construction of the questionnaire was the selection of questions for the research method. In the case of online research, it was particularly important to clearly formulate questions and use comprehensible language. The questionnaire uses closed-ended questions, i.e. questions with a list of prepared, predefined answers presented to the respondent to choose from. Among the closed questions, alternative questions were used, where the answer possibilities were as follows: 'definitely satisfactory/definitely yes/yes/always has/rather satisfactory/rather yes/I have no opinion/hard to say/

rather unsatisfactory/rather not, and so on'. Most of the questions were disjunctive, i.e. they required choosing only one answer out of more than two answers. There were conjunctive questions that made it possible to choose more than one of the possible answers. In addition, the questionnaire used substantive questions, i.e. questions about the respondent, containing a set of questions about all the demographic and social features of the respondent important for the research, such as employee age, seniority and job position. The questions included in the questionnaire began with the most general question, followed by specific questions. After the questionnaire was prepared, it was sent to the previously selected group of respondents by e-mail with a link that redirected directly to the questionnaire.

The survey was conducted twice. The first survey took place in 2017, when the respondents were asked to assess the quality of working conditions and the satisfaction of employees of the company providing transport services. The next survey was carried out in 2018 after a pay rise by an average gross amount of PLN 250. The main task of the study was to obtain an answer to the question of how employees perceived the company in particular areas of its operation and to identify factors influencing employee satisfaction, such as adequate pay, tasks respected by people, long vacation, convenient working hours, work in accordance with skills, personal development, high autonomy and the lack of tension and stress. The above-mentioned factors are internal factors of the company, so the company is able to directly influence the level of satisfaction. Therefore, the aim of the study was to determine the factor or factors providing satisfaction to employees working in the enterprise providing transport services.

The addressees of the study were administrative employees and lower-level managers of the enterprise providing transport services. The 2017 survey involved 289 people, while 316 employees took part in the 2018 survey.

Initial verification of the data obtained from the study and the RQs posed allowed for the formulation of the following hypotheses:

> *Hypothesis 1: Employee satisfaction is significantly influenced by pay.*
>
> *Hypothesis 2: Factors other than pay significantly affect job satisfaction.*
>
> *Hypothesis 3: The job position held by an employee significantly influences their satisfaction.*

The starting point for the study was the use of the MNL model. In this model, the dependent variable is discrete and takes values from a countable and finite set of values with a specific hierarchy.

The level of satisfaction was established based on the respondents' answers. The sum of the points for the responses from each respondent made it possible to determine the level of satisfaction of an employee of the surveyed company providing transport services.

If the sum of the respondent's answers was $<5$, the employee was definitely dissatisfied with the work in the company providing transport services (Level 1, $y < 5$). If the sum of the respondent's answers was $<10$, but $>5$, the employee was dissatisfied (Level 2, 5 £ $y < 10$). If the sum of the respondent's answers was $<15$ but $>10$, the employee was satisfied (Level 3, 10 £ $y < 15$). Finally, if the sum of the respondent's answers was $>15$, the employee was definitely satisfied with the work in the company providing transport services (Level 4, $y \geq 15$).

## 4 Results of the Study of the Quality of Working Conditions Affecting the Satisfaction of Transport Service Employees

The starting point for the study was the use of a multinomial ordered logit model in which the likelihood-ratio (LR) and Wald tests were performed. On the basis of the tests performed, it was ascertained whether the irrelevant variables in the 2017 survey, i.e. seniority, employee age, lack of tension and stress at work, high autonomy, possibility of personal development, work in accordance with skills, convenient working hours and tasks respected by people, and the following variables of the survey conducted in 2018,i.e. seniority, lack of tension and stress at work, high autonomy, work in accordance with the skills, convenient working hours and long vacation, can be removed from the model altogether. Based on the LR and Wald tests, it was found that the above-mentioned parameters for all variables are statistically insignificant, i.e. the determined variables can be removed from the model. On this basis, a logit

**Tab. 1.** Empirical values of the employee's chance of being satisfied with the managerial position and receiving adequate pay in the analysed period

| The factor providing satisfaction to transport service employees, expressed by the odds ratio | The result obtained in 2017 | The result obtained in 2018 |
|---|---|---|
| Managerial position | 2.6371 | 4.6117 |
| Adequate pay | 0.3725 | 0.3993 |

*Source:* Own study.

model with constraints was built, where the model was re-estimated without irrelevant variables.

At the beginning, let us look at the odds ratio results in the analysed period (Table 1).

Interpreting the odds ratio, it can be said that an employee in a managerial position had 164% higher chance of higher satisfaction in 2017. On the other hand, the study conducted in 2018 shows that after receiving a pay rise, people in managerial positions had 361% higher chance of higher satisfaction compared to people in non-managerial positions, with other factors unchanged. The above results may indicate that managers, comparing the level of remuneration in 2017 in relation to the national average of the management level, feel that they have received lower salaries for the work performed in their position. After the pay rise in 2018, there was a noticeable increase in management satisfaction, which may indicate that the earnings of people in this position were close to the national average for the management level. In 2018, managers felt more appreciated and so their management satisfaction increased. These results only confirm the hypothesis that an employee's job position significantly affects the level of satisfaction. The reason for the increase in the level of satisfaction of managers may be the fact that they received a higher pay rise compared to the administrative employees of the transport company.

On the other hand, when adequate pay was important for a respondent, the chance of a higher level of satisfaction was 63% lower than in the case when adequate pay was not important for them in 2017. The study conducted in 2018 showed that after receiving a pay rise, the chance of a high level of satisfaction among people employed in the enterprise providing transport services was lower by 60.07% along with the increase in remuneration. This means that after receiving a rise in 2018, the chances for a high level of satisfaction among the administrative staff slightly decreased compared to 2017, but the result remained at a very high level. In this case, we cannot agree with the first hypothesis, saying that employee satisfaction is directly influenced by remuneration. This may result from the fact that the criteria for awarding the rise were very unclear. Employees of the company providing transport services argued that their superiors granted the pay rise in a discretionary and thus subjective manner. In the respondents' opinion, it should have been an objective matter based on clear criteria. These arguments may explain the dissatisfaction of respondents despite the pay rise, but a deeper understanding of this issue requires further research (Table 2).

It is noted that the lower the level of satisfaction of a manager, the lower is the probability of dissatisfaction compared to non-managers. In other words, a person holding a managerial function gets satisfaction from the fact that being a manager is, to some extent, perceived as prestigious. In the case of managers declaring a high level of satisfaction, the probability of declaring satisfaction with performing a managerial function increases with the level of satisfaction.

Long vacation proved to be more important for those who were definitely dissatisfied than for the group of respondents classified as definitely satisfied and satisfied. It can be concluded that the respondents who were definitely dissatisfied with their work in the company providing transport services wanted to work shorter hours and expected a long vacation.

Interpreting the attribute 'adequate pay', it was observed that the lower the satisfaction level of the respondents, the more likely that they were not satisfied with their salary. Dissatisfaction with the received remuneration might have resulted in the lack of these people's involvement in the work for the company because they felt low paid. It was different in the case of people classified as satisfied or definitely satisfied. In their case, it was observed that the probability of satisfaction decreased with the increase in pay. It can therefore be concluded that the increase in wages was not motivating (Table 3).

**Tab. 2.** Presentation of empirical values of the level of satisfaction dependent on the likelihood of satisfaction with fulfilling a managerial position, obtaining a long vacation and receiving adequate pay in the 2017 study

| **Satisfaction level** | **Level 1: definitely dissatisfied** | **Level 2: dissatisfied** | **Level 3: satisfied** | **Level 4: definitely satisfied** |
|---|---|---|---|---|
| Variable | *dy/dx* | *dy/dx* | *dy/dx* | *dy/dx* |
| Managerial position | −0.1396 | −0.0981 | 0.0763 | 0.1614 |
| Long vacation | 0.3798 | −0.0635 | −0.1813 | −0.1349 |
| Adequate pay | 0.1712 | 0.0663 | −0.1021 | −0.1355 |

*Source:* Own study.

**Tab. 3.** Presentation of empirical values of the level of satisfaction dependent on the likelihood of satisfaction with the performance of a managerial position, employee's age, possibility of personal development, tasks respected by people and receiving adequate pay in the 2018 study

| **Satisfaction level** | **Level 1: definitely dissatisfied** | **Level 2: dissatisfied** | **Level 3: satisfied** | **Level 4: definitely satisfied** |
|---|---|---|---|---|
| Variable | *dy/dx* | *dy/dx* | *dy/dx* | *dy/dx* |
| Managerial position | −0.2776 | −0.0820 | 0.2493 | 0.1103 |
| Age | −0.0040 | 0.0001 | 0.0031 | 0.0008 |
| Possibility of personal development | −0.0889 | 0.0007 | 0.0698 | 0.0184 |
| Tasks respected by people | 0.2479 | −0.0681 | −0.1495 | −0.0304 |
| Adequate pay | 0.1937 | 0.0147 | −0.1602 | −0.0482 |

*Source:* Own study.

After respondents received a pay rise in 2018, other factors important for the level of perceived job satisfaction were noticeable, including age, the possibility of personal development and tasks respected by people. However, the attribute 'long vacation' no longer affected the level of respondents' satisfaction. On the other hand, the managerial position was the main factor mentioned by the respondents as a factor determining the level of satisfaction in both analysed periods. In the 2018 study, it was noticed that holding a managerial position did not change its importance after respondents received a pay rise. The belief that it was worth working in a managerial position strengthened among the respondents.

In the case of those who were definitely dissatisfied, the probability of significant dissatisfaction decreased with age. It can be concluded that older people are aware that it is more difficult to find a new job later in life. They are happy that they can perform their duties and safely wait for their retirement period. In the group of people classified as satisfied and definitely satisfied, the probability of being satisfied even increased with age. People are supposed to identify with the company and at the same time become loyal employees.

Surprisingly, in the group of employees who were dissatisfied, the probability of their dissatisfaction increased with the possibility of personal development. This means that the training offered to the respondents did not match their expectations. Among those satisfied and definitely satisfied, the probability of being satisfied with the possibility of personal development increased, so it can be concluded that the training and the direction of development met the respondents' expectations.

The biggest surprise was the attribute 'adequate pay'. In this case, the probability of being satisfied with pay after receiving a rise in 2018 decreased in

**Tab. 4.** Presentation of the empirical values of the Level 4 of satisfaction (definitely satisfied) in the analysed period

| **Marginal effects obtained in the 2017 study** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Marginal effects after ologit<br>*y* = Pr (satisfaction level = 4) (predict, outcome (4)) = 0.1672 | | | | | | | |
| **Variable** | ***dy/dx*** | **SE** | ***z*** | ***P* > \|z\|** | **[95% CI]** | | ***X*** |
| Managerial position | 0.1614 | 0.0529 | 3.05 | 0.002 | 0.0577 | 0.2650 | 0.2042 |
| Long vacation | −0.1350 | 0.0376 | −3.59 | 0.000 | −0.2086 | −0.0612 | 0.0208 |
| Adequate pay | −0.1355 | 0.0311 | −4.36 | 0.000 | −0.1963 | −0.0746 | 0.4671 |
| (*) *dy/dx* is for discrete change of dummy variable from ‘0’ to ‘1’ | | | | | | | |
| **Marginal effects obtained in the 2018 study** | | | | | | | |
| Marginal effects after ologit<br>*y* = Pr (satisfaction level = 4) (predict, outcome (4)) = 0.0466 | | | | | | | |
| **Variable** | ***dy/dx*** | **SE** | ***z*** | ***P* > \|z\|** | **[95% CI]** | | ***X*** |
| Managerial position | 0.1103 | 0.0340 | 3.25 | 0.001 | 0.0437 | 0.1768 | 0.1804 |
| Age | 0.0008 | 0.0004 | 1.79 | 0.073 | −0.0001 | 0.0017 | 43.7405 |
| Possibility of personal development | 0.0184 | 0.0116 | 1.59 | 0.113 | −0.0043 | 0.0411 | 0.4177 |
| Tasks respected by people | −0.0304 | 0.0130 | −2.34 | 0.019 | −0.0558 | −0.0049 | 0.0380 |
| Adequate pay | −0.0482 | 0.0165 | −2.92 | 0.004 | −0.0806 | −0.0159 | 0.6741 |
| (*) *dy/dx* is for discrete change of dummy variable from ‘0’ to ‘1’. | | | | | | | |

*Note:* CI, confidence interval; SE, standard error.

*Source:* Own study.

each group of respondents. This may indicate that the pay rise was too low compared to the increase in the cost of products and services or to the known amounts of other employers’ salaries. Perhaps, the way it was introduced was also flawed, indicating that it is not enough to raise wages to increase employee satisfaction. It is important to whom and in what relation to the duties performed they are raised. On the other hand, it proves that non-wage factors also influence employee satisfaction.

Finally, the marginal effects for Level 4, i.e. people who were definitely satisfied, were compared in detail (Table 4).

The marginal effects presented in Table 4 show the factors providing employee satisfaction in both studied groups. In 2017, the following factors were very important for employees: managerial position, long vacation and adequate pay. Then, when the employees received a pay rise in 2018, surprisingly, long vacation became less important, and managerial position remained the main factor of satisfaction. The observations show that people who earn better are more willing to give up their free time in favour of higher remuneration. For the employees who received the rise, other non-wage factors that affected their satisfaction turned out to be important, such as the possibility of personal development and performing tasks respected by people. Additionally, it was noticed that the level of job satisfaction increased with age in the enterprise providing transport services. This confirms the second hypothesis that not only pay but also other factors significantly affect job satisfaction. Therefore, it is recommended to explore the factors related to employee satisfaction more broadly.

# 5 Conclusions

The process of globalisation and development of new technologies in the 20th century has brought many changes in the relationship between an employee and an employer. Along with the development of technology, many processes have been automated, changing the forms of employment and the benefits offered to employees. Therefore, decisions regarding work and the utility derived from it also depend on the non-wage financial benefits provided by an employer, benefits related to the way in which the work is performed and individual external benefits (development opportunities, prestige of the position held and so on).

Earlier research results indicated that decisions regarding work and its utility directly depend on non-wage financial benefits provided by an employer, the type of contract concluded and the individual external benefits (development opportunities, prestige of the position held). For many employees, a very important category is the physical conditions of work (e.g. working time, commuting time, pleasure from the tasks performed), as well as the mental conditions of performing assigned tasks (team atmosphere, levels of stress and control). The study entitled *Benefits of Employment: Decomposition and Valuation* showed that the financial utility value derived from individual employment characteristics was significant in relation to the average market wage during the study period. The valuation of some of the attribute levels exceeded half of the average market remuneration in the analysed period, which proves that non-wage streams of benefits can actually determine the utility derived from employment.

The conclusions from the study are consistent with the studies cited in the literature, where remuneration is only one of many elements that compensate employees for their efforts and does not reflect all the benefits that an employer receives from employing an employee.

Moreover, the inclusion of non-wage employment attributes (included in the analysis) in more general incentive systems may encourage employees of the transport company to provide higher-productivity jobs. Supplementing remuneration for work with non-wage benefits may result in higher productivity of employees without raising the level of wages. Thus, the optimisation of the transport company in the efficiency wage model does not have to mean keeping wages above the level offered by other employers. The popularisation of non-wage benefits for employees may only positively affect the attractiveness of employment in the company providing transport services.

Finally, the analysis shows that holding a managerial position significantly affects the level of satisfaction before and after employees receive a pay rise. This may mean that the social prestige of the position held is very important for the respondents. Managers probably feel greatly appreciated and distinguished for their work in the transport company.

The research results may find their application in further economic research on the determinants of decisions about taking up and maintaining employment. The methodology taken from the valuation of non-market goods proved to be useful in the analyses of the problems discussed, which may indicate that it is worth developing research on job satisfaction and motivation to take up and perform work in a similar way.

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