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# Motivational preferences within job positions are different: empirical study from the Czech transport and logistics enterprises

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## ABSTRACT

The aim of the article is to determine the basic differences that motivate the employees in the sector of transport and logistics in various job positions in the Czech Republic. The article is based on a questionnaire for a research sample of 2363 respondents, which was carried out in the course of the years of 2018 and 2019. The basic descriptive statistics of analysis of variance (ANOVA) – the Tukey HSD Test has been used for the processing of the data. The results show the significant differences in terms of the career and relationship motivational preferences of managers in contrast to the lower preference in the case of the employees at lower hierarchical levels. The presented results of the article are usable for a base for further research apart for their practical use for the creation and modification of motivational programs of the businesses operating in the sector of transport and logistics.

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## 1. Introduction and background

Talent, skills, knowledge and competencies, which determine the potential of the contribution of human resources in a business, create a high competitive value (Adeola et al., 2016; József et al., 2020). Therefore, employing and retaining a highly motivated quality workforce is the alpha and omega of business success not only in the market of transport and logistics. The main goal of the system of human potential development is to create conditions for the effective fulfilment of a business concept by maximising the performance of its employees. The globalisation of world trade causes an enormous growth in demand for transport and logistics services and, consequently, a demand for human resources in this area, which is not so only the case of the Czech Republic. Employers face the difficult task of attracting and retaining

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quality employees. This situation is complicated by the combination of the gradually changing demand for human resources due to the onset of the 4th Industrial Revolution. The article focuses on solving the question ‘what motivates the employees of transport and logistics companies and how these preferences change with regard to the job position of the employees’. Thus, the aim of the article is to determine statistically significant differences in the motivational preferences of the employees in Czech transport and logistics companies. These differences are the key to how to search and, above all, maintain a good workforce in the transport and logistics sector, where the problem is highly imminent and is expected to be only partially solved by the introduction of intelligent technologies. The issue of the motivation of employees is relatively widely discussed in published research papers (Hewapathirana, 2012; Rynes et al., 2004; Stachová et al., 2018). However, motivational attitudes of employees in terms of individual regions and also within individual areas are insufficiently addressed so that mutual comparison is possible. The presented research in the article is based on the methodology of determining motivational factors by Hitka (2009), who applies this methodology to the Slovak companies, which enables a partial comparison of results. The field of transport and logistics is also insufficiently addressed in terms of the demand for human resources with regard to the current crisis in the area. The article is essentially bound to partially fill this gap and provide a specific perspective on the area of work motivation.

### ***1.1. The current labour market in the sector of transport and logistics***

The globalisation of world trade increases the focus and demands on logistics, which is now increasingly becoming the centre of attention. It is an area influenced by the globalisation of world trade, the explosion of information and communication technologies, the growing importance of the system approach, the concept of total costs and the orientation of a business to top quality and high level of customer service (Bajzikova et al., 2013; Doležálek, 2017; Kucharčíková & Mičiak, 2018). The global concept of supply-chains is interconnected with the ability to solve complex problems in the global (international) trade (Lorincova & Potkany, 2015; Novák Sedláčková et al., 2019; Potkány et al., 2019; Zýka & Drahotský, 2019). It is a condition for the optimisation and synchronisation of activities with the aim of final optimisation using these synergies (Kmecová, 2020; Sommerauerová et al., 2018). The progressive economic growth in this sector brings about progress, i.e., laser scanning, high automation, collaborative robots, streetscooters, crowd logistics/on demand logistics, drones, vision picking – smart glasses (Nekturová, 2016). By making logistics in the Czech Republic a part of the European and global trade, logistics providers are involved in transnational production and distribution chains and in the application of modern processes and technologies. Therefore, they are participating in the global relations and consequently in the global problems (Jovčić et al., 2019; Riha et al., 2014). The geographical location within the EU, relatively low costs and wages, political stability and sufficient skilled labour are the reasons for the allocation of logistics units in the Czech Republic and Slovakia (Ližbetin, 2019; Nedeliakova et al., 2019). The problem of the lack of qualified, motivated and valuable human resources in the field of

transport and logistics is known in most developed countries (USA, DE, GB and FRA). The Czech Republic and Slovakia are currently facing this problem, where there is a huge disparity between the demand for human resources, aspirants and suitable candidates for this type of work (Kolar, 2016). The Confederation of Industry of the Czech Republic (LOGISTIC NEWS, 2017) states that the highest ever demand for employees was recorded in August 2017, over 199,000 jobs. Considering the growing economy constantly creating new opportunities, there is a high assumption of an even greater problem, which is the lack of employees at all levels of logistics (Loučanová et al., 2018; Sedláčková et al., 2019). The situation is similar in Slovakia (News and Media Holding, 2017). The biggest problem is to cover the need for human resources during seasonal fluctuations, e.g., before Christmas (Antonova et al., 2015). The companies try to offer better working conditions, declare a friendly working atmosphere in the business, increase comfort for employees in the workplace and the recruitment often shows elements of a marketing campaign (Johanek, 2017; Kohnová et al., 2019; Vetrakova et al., 2018). Logistics companies are therefore beginning to consciously use so-called employee branding, trying to be an interesting employer from the perspective of their own and potential employees. This approach includes progressive HR activities so that the employer differentiates proactively from its competitors and retains and attracts as many new valuable employees as possible.

The current trend for dealing with the lack of human resources is the employment of foreigners. This way solves the situation only partially as well and brings other complications at the same time. The recruitment and adaptation process is more time-consuming and expensive (Olšovská et al., 2016). The employment of foreigners from the countries outside the EU (mostly Ukraine, Russia, Mongolia, India, Serbia and the Philippines) is bureaucratically demanding in the Czech Republic and Slovakia. There have been introduced the following programs to improve the situation and to simplify this agenda in the Czech Republic: Fast-track, Welcome package, Project and regime Ukraine and Regime for other states (Mongolia, Philippines and Serbia). At present, Poland is the biggest competitor in the field of globalised logistics for the Czech Republic and Slovakia. It benefits from a geographical location similar to the Czech Republic, while the costs are lower by 30%/m<sup>2</sup> of storage space. It is also due to lower demands for financial remuneration (wages). The lower rate of bureaucracy in the employment of foreigners is another competitive advantage which makes it easier to solve the issue of the lack of human resources in this area (Stachová et al., 2019).

## **1.2. Motivation in personnel management**

Motivation is the driving force in an individual's life, which generates the energy to seek his or her goals. In a similar sense (Miller, 2017), there is a definition of motivation as power that energises individuals to act in order to achieve a specific goal. Its strength is expressed by the intensity and the very persistence of efforts in the taken direction. In personnel management, Sansone and Harackiewicz (2000) present motivation as a sum of psychological motives for initiating and managing an employee's conduct and behaviour for the purpose of achieving goals; as equivalents in the

satisfying a person's needs, which he or she perceives. Saraswathi (2011) understands it as a willingness to make a high level of effort to meet organisational goals, it is conditioned by an effort to satisfy some individual needs (Aladwan et al., 2015; Budiyo, 2019). There are also three key elements of motivation: effort, organisational goal and need. Armstrong (2010) explains motivation as a factor which influences an employee's behaviour. It emphasises that employees are willing to work voluntarily with the right motivation more than expected (Herdjiono et al., 2017). According to Rahman et al. (2013) 'motivation is a factor that is considered not only among employers but also among employees as a black box, referred to as a phenomenon involved in the operation of stimuli - or incentives and urges'. Achim et al. (2013) define motivation as the sum of the needs to be met, which affect the individuals and encourage them to undertake a set of actions with the aim of meeting them.

## 2. Methodology

The aim of the article is to determine statistically significant differences in the motivational preferences of the employees in transport and logistics companies in the Czech Republic in the context of their job classification (executive, office staff and manager). The fulfilment of the objective is based on the completed research of the motivational preferences and satisfaction with the level of motivational factors (subject of research) of the employees in transport and logistics companies within the Czech Republic (object of research). The data were collected using a questionnaire survey in 2018 and 2019. A questionnaire was used to determine the level of motivation and to analyse the motivational factors of employees working in the given field. The questionnaire was essentially based on intentionally targeted questions. The accuracy of the prepared survey (questionnaire) was verified within the previous research in the Czech Republic and Slovakia. A questionnaire was created within the research to investigate work motivation based on the methodology that had been used in Slovakia before (Hitka, 2009). The questionnaire consists of 30 closed questions and is divided into two parts. The first part examines the socio-demographic and qualification characteristics of the employees in transport and logistics companies. The survey includes basic data on respondents concerning their age, gender, number of years of service in the business, completed education, residence in the Czech region and job positions. The selection of respondents is carried out by the method of Quota sampling. Gender categories and nationality within the region are used as check marks in the selection. These check marks are determined due to the availability of statistics in the Czech Republic in the field of transport and logistics. The second part of the questionnaire deals with the evaluation of 30 motivational factors in regard to the perception of their importance and level of fulfilment (satisfaction) of the employees in transport and logistics companies. Attention is focused on the assessment of five groups of thirty motivational factors:

- Financial factors: additional financial remuneration, fair evaluation (remuneration) of an employee, basic salary.

- Occupational factors: physical demand of work, job security, content and type of work, notice of the achieved working outcome (working outcome feedback), working hours, working environment, working performance, security in the workplace and mental pressure.
- Social factors: social benefits, business vision, development of region, environment approach and leisure time.
- Relational factors: workplace atmosphere, good working team, communication at work and superordinate's attitude.
- Career factors: possibility to apply one's ability, career growth, competences, prestige/business name, prestige – position, independent decision-making, self-fulfilment, education and personal growth and recognition at work.

In the valuation respondents assign to each motivational factor a value on the Likert scale, it ranges from 1 to 5, where 5 is the maximum (very important) and 1 is the minimum (irrelevant).

### **2.1. Research sample**

The basic research setting is the employees of transport and logistics companies in the Czech Republic. The no. of 264.5 employees (calculated, 73.47% of which were males, and 26.53% of which were females) worked in the area of transport and logistics in 2017 according to the Czech Statistical Office. In 2018, the number of employees increased by 1.8% (269.2 thousand) and in 2019 their number was 268.5 thousand. (1.5% more than in 2017) (ČSU, 2019). In the field of transport there were 71,120 entities, however, in case of 83% of them there is no data about the number of employees according to the Statistical Office. There are 17% available categorised entities, 15% of which are micro and small enterprises, 2% are medium-sized enterprises and 0.19% are large enterprises with more than 250 employees. Statistical data on age structure, occupation or completed education in transport and logistics businesses are not monitored. In terms of age, there are 14.8% of employees under 29, 23.1% are within the range of 30–39 years of age, 30.8% are between 40 and 49 and 31.3% are over 50. The selection of respondents is ensured by targeted selection so that the obtained sets are comparable in terms of their composition and structure (quota sampling method). Quota sampling works on the principle of dividing the population into specific groups (Champely et al., 2018). It is necessary to identify the features of controlling that are easily detectable in the interviewees in the implementation of quota sampling (Scheer, 2007). Gender categories and residence in the region are determined as the features of controlling in the selection. These features of controlling are determined for the reason of the availability of statistics in the Czech Republic in the field of transport and logistics.

The test of a priori power analysis with the help of G Power software is used to calculate the minimal range of sample set ( $N$ ). A priori power analysis is a procedure where the sample size ( $N$ ) is calculated as a function of the required strength of the test level ( $1 - \beta$ ) of the predetermined significance level ( $\alpha$ ) and the magnitude of the effect size (ES) in the examined population. There is a calculation to compare

independent means of two groups for the F test group, it is with the selection of specification for ANOVA test at the following input parameters:  $ES = 0.2$ , chosen at significance level  $\alpha = 0.05$ , test strength  $(1 - \beta) = 0.95$ . The result determines the minimal sample size at 350 respondents which makes the test strength a total of 0.9817307. A minimum sample size of 350 respondents with a confidence level of 95% and a precision of 5% is determined to maintain the representativeness of the research. As a result, a total of 2363 questionnaires have been collected in the course of 2 years which is a criterion of minimum sample size.

A total of 2300 printed questionnaires have been distributed and 1300 persons have been contacted *via* e-mail to obtain information on employee motivation in transport and logistics companies. The distribution was by personal contact (printed questionnaire) in combination with email contacting (electronic version of the document on the Google forms platform). The questionnaires were distributed in 2018 and 2019. The return rate was 1560 printed questionnaires (67.8% correctly completed questionnaires, 31 questionnaires were discarded due to errors) and 803 completed questionnaires in Google forms (61.8% of return rate). In total (during years 2018 – 2019), 2363 respondents were involved in the research and filled in the questionnaire correctly. The characteristics indicating the research sample of the respondents are in [Table 1](#).

## 2.2. Data processing and evaluation

Basic descriptive statistics are used for data processing and analysis, i.e., the quantification of basic statistical characteristics. The paper also works with the derived preference of variables which deal with 5 groups of motivational factors transformed by a calculation based on the existing preference variables of the individual motivational factors. The transformation by adding the appropriate motivational factor variables for each of the five motivation groups is performed in SPSS program using the Transform/Compute Variable function. Subsequently, the results can be compared. Except from the simple comparison of the values of the basic characteristics with respect to the selective character of the obtained data there is the testing of the conformity of the mean values by the means of an analysis of variance called ANOVA referring to the English term of ANOVA. This test is favoured over the two-sample t-tests at the significance level of  $\alpha$  as there is a need to test more than two selections; the repeating of a test would make the resulting significance level higher than  $\alpha$ , which would devalue the test. The ANOVA test created by R.A. Fisher preserves the resulting significance level  $\alpha$ , and the acceptable strength of the test which verifies the hypothesis (Equation (1)):

$$H_0 : \mu_1 = \mu_2 = \dots = \mu_k \quad (1)$$

$H_0$ : we assume that the mean values of the motivational factors of two or more independent tested selections ( $k$  – is the number of selections) are not significantly different from the alternative where at least one pair of mean values of the compared independent selections is different. If the null hypothesis is rejected at the significance

**Table 1.** Characteristics indicating the research sample of the respondents.

Parameter of sample division/category		Absolute abundance		Relative abundance		Total
		Female	Male	Female	Male	
Age	Up to 30 years of age	239	457	34.3%	65.7%	696
	% within the sample of females/males	31.4%	28.5%			29.5%
	From 31 to 40 years of age	209	491	29.9%	70.1%	700
	% within the sample of females/males	27.5%	30.6%			29.6%
	From 41 to 50 years of age	189	371	33.8%	66.3%	560
	% within the sample of females/males	24.9%	23.1%			23.7%
Education	51 years of age and more	123	284	30.2%	69.8%	407
	% within the sample of females/males	16.2%	17.7%			17.2%
	Basic	30	73	29.1%	70.9%	103
	% within the sample of females/males	3.9%	4.6%			4.4%
	Secondary school without maturita exam	142	522	21.4%	78.6%	664
	% within the sample of females/males	18.7%	32.6%			28.1%
The length of practice in the subject	Secondary school with maturita exam	380	671	36.2%	63.8%	1051
	% within the sample of females/males	50.0%	41.9%			44.5%
	University degree	208	337	38.2%	61.8%	545
	% within the sample of females/males	27.4%	21.0%			23.1%
	Less than 1 year	108	150	41.9%	58.1%	258
	% within the sample of females/males	14.2%	9.4%			10.9%
Position	From 1 to 3 years	190	391	32.7%	67.3%	581
	% within the sample of females/males	25.0%	24.4%			24.6%
	From 4 to 6 years	155	335	31.6%	68.4%	490
	% within the sample of females/males	20.4%	20.9%			20.7%
	From 7 to 9 years	95	225	29.7%	70.3%	320
	% within the sample of females/males	12.5%	14.0%			13.5%
Total	More than 10 years	212	502	29.7%	70.3%	714
	% within the sample of females/males	27.9%	31.3%			30.2%
	Performance workers	181	665	21.4%	78.6%	846
	% within the sample of females/males	23.8%	41.5%			35.8%
	Administrative workers	371	592	38.5%	61.5%	963
	% within the sample of females/males	48.8%	36.9%			40.8%
Total	Managers	208	346	37.5%	62.5%	554
	% within the sample of females/males	27.4%	21.6%			23.4%
Total		760	1603	32.2%	67.8%	2363
% within the sample of females/males		100.0%	100.0%			100.0

Source: authors' own research.

level  $\alpha$ , there is an object of interest to find out which  $\mu$  pairs have caused this rejection. This following process is called post hoc analysis and is based on comparing the mean values of all pairs – the so-called multiple comparison. Fisher's LSD, Bonferroni, Scheffe and Tukey methods are used to solve multiple comparisons. Fisher's LSD multiple comparison method is the first post-hoc multiple comparison method to be proposed and is the most liberal compared to other post-hoc methods. The use of the Bonferroni procedure is relatively conservative, which means that it is relatively difficult to achieve statistical significance when using it (especially when the number of tests performed is greater than 10). The Scheffé method is often preferred in practice for its universal use. On the other hand, the Tukey's method is less general and more sensitive at the same time. The condition is the same number of observations at all groups. The modified version of Tukey test, called the Tukey HSD test, can be used in the case of unbalanced sorting (Meloun et al., 2005). The Tukey HSD test is used to determine the relationships in rejecting the null statistical hypothesis in the article for this reason.

The following working hypotheses are set on the basis of the objective set in the article:



- Working hypothesis PH1: We assume that the level of importance of the group of financial motivational factors will be statistically significantly different in terms of job position of the employees in the Czech transport and logistics companies.
- Working hypothesis PH2: We assume that the level of importance of the group of occupational motivational factors will be statistically significantly different in terms of job position of the employees in the Czech transport and logistics companies.
- Working hypothesis PH3: We assume that the level of importance of the group of social motivational factors will be statistically significantly different in terms of job position of the employees in the Czech transport and logistics companies.
- Working hypothesis PH4: We assume that the level of importance of the group of relational motivational factors will be statistically significantly different in terms of job position of the employees in the Czech transport and logistics companies.
- Working hypothesis PH5: We assume that the level of importance of the group of career motivational factors will be statistically significantly different in terms of job position of the employees in the Czech transport and logistics companies.

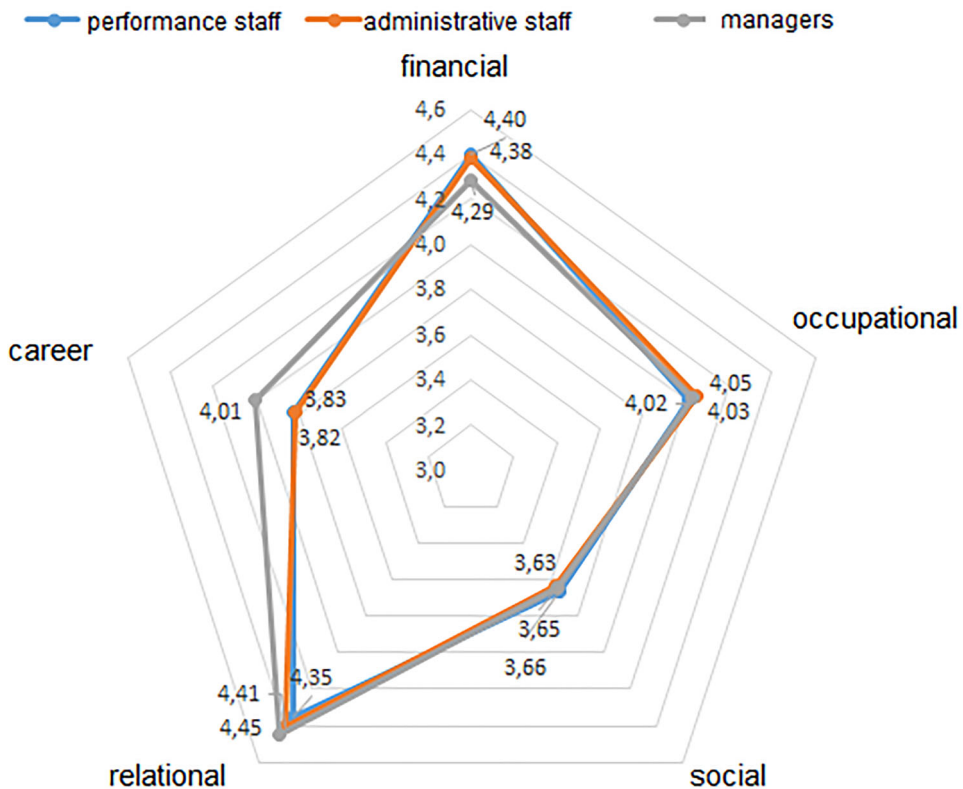
### 3. Results of the research and discussion

Similarly, to the difference in preferences and attitudes in terms of age or gender (Hitka & Balážová, 2015), job position has a significant impact on the attitudes and expectations of employees, and therefore, there is a presumption of different motivational preferences. This is due not only to their different job descriptions and conditions, responsibilities and competences, but also to the different position of employees on the labour market. This part of the article focuses on the presentation of the identified differences in preferences and the level of fulfilment of motivational factors in transport and logistics companies' employees in terms of three basic categories of work – performance workers, administrative and managerial staff.

#### 3.1. Preference of motivational factors on the basis of job position

The sense of importance in terms of job position is presented in the arithmetic means. For reasons of clarity, the results are presented in terms of 5 groups of motivational factors, [Figure 1](#). The graphical representation of groups of motivational factors highlights higher preferences of the managerial staff for career and relationship factors and their lower preferences within financial motivational factors. Overall, the highest preferences are for financial and relationship motivational factors and the lowest are for social factors.

For performance workers, the most important motivating factor is the basic salary (4.48) followed by factors – job security (4.41), a good team (4.39), a fair evaluation (4.39) and a superordinate's attitude (4.39). For administrators and managers, the basic salary is not the most important motivating factor, but the most important factor for them is a good team (4.49 for administrators and 4.51 for managers). For administrative staff, the basic salary (4.44) is the second most preferred preferences, followed by the workplace atmosphere (4.43), fair evaluation (4.42) and the attitude of the supervisor (4.39).



**Figure 1.** Preference of groups of motivational factors according to job classification. Source: authors' own research.

For managerial staff, the basic salary factor is ranked fifth in terms of preferences (4.38) and they are particularly interested in relational motivational factors – a good work team (4.51), workplace atmosphere (4.48), attitude of the supervisor (4.42) and workplace communication (4.39). These different preferences are likely to be related to the level of financial remuneration of performance workers, administrative and managerial staff. The categories that have a higher average score then shift this factor in importance. Likewise, the motivational factor of job security is linked to the fact that it is easy to replace a given job with a substitute employee. For this reason, job security comes second in terms of preferences for performance workers.

The ANOVA test in Table 2 statistically indicates the significant differences within the groups of motivational factors between the three categories of employees of the transport and logistics companies. At the significance level of 5%, the statistical null hypothesis in favour of the alternative was disproved, which suggests that from the point of view of job categories, there are statistically significant differences in preferences for groups of motivational factors: financial, relationship and career.

More specific information on relationships within the determined significant differences is examined by the Tukey's HSD test, the results of which are shown in Table 3. At a significance level of 5%, significantly higher demands on career factors are found for managerial staff in relation to other categories ( $p = .000$ ) and for relational factors ( $p = .006$ ) towards performance workers. On the contrary, managers

**Table 2.** ANOVA test of preferences of groups of motivational factors according to job classification.

		Sum of squares	df	Mean square	F	<i>p</i> Value
Financial	Between groups	46.086	2	23.043	6.476	.002
	Within groups	8396.719	2360	3.558		
	Total	8442.805	2362			
Occupational	Between groups	61.487	2	30.744	1.153	.316
	Within groups	62,916.080	2360	26.659		
	Total	62,977.567	2362			
Social	Between groups	6.462	2	3.231	0.319	.727
	Within groups	23,896.417	2360	10.126		
	Total	23,902.879	2362			
Relational	Between groups	59.790	2	29.895	5.055	<b>.006</b>
	Within groups	13,956.866	2360	5.914		
	Total	14,016.655	2362			
Career	Between groups	1149.658	2	574.829	16.779	<b>.000</b>
	Within groups	80,850.245	2360	34.259		
	Total	81999.903	2362			

Note: Statistically significant differences are highlighted in bold.

Source: authors' own research.

**Table 3.** Tukey's HSD test of preferences of groups of motivational factors according to job classification.

Dependent variable			Mean difference	Std. error	<i>p</i> Value	95% Confidence interval	
						Lower bound	Upper bound
Financial	Performance workers	administrative w.	0.06142	0.08889	.769	-0.1470	0.2699
		<b>Managers</b>	0.35624*	0.10312	.002	0.1144	0.5981
	Administrative workers	Performance w.	-0.06142	0.08889	.769	-0.2699	0.1470
		<b>Managers</b>	0.29482*	0.10056	.010	0.0590	0.5307
	Managers	<b>Performance w.</b>	-0.35624*	0.10312	.002	-0.5981	-0.1144
		<b>Administrative w.</b>	-0.29482*	0.10056	.010	-0.5307	-0.0590
Relational	Performance workers	Administrative w.	-0.23897	0.11460	.093	-0.5077	0.0298
		<b>Managers</b>	-0.41079*	0.13294	.006	-0.7226	-0.0990
	Administrative workers	Performance w.	0.23897	0.11460	.093	-0.0298	0.5077
		Managers	-0.17182	0.12965	.381	-0.4759	0.1322
	Managers	<b>Performance w.</b>	0.41079*	0.13294	.006	0.0990	0.7226
		Administrative w.	0.17182	0.12965	.381	-0.1322	0.4759
Career	Performance workers	Administrative w.	0.08440	0.27583	.950	-0.5625	0.7313
		<b>Managers</b>	-1.59915*	0.31997	.000	-2.3495	-0.8488
	Administrative workers	Performance w.	-0.08440	0.27583	.950	-0.7313	0.5625
		<b>Managers</b>	-1.68355*	0.31205	.000	-2.4154	-0.9517
	Managers	<b>Performance w.</b>	1.59915*	0.31997	.000	0.8488	2.3495
		<b>Administrative w.</b>	1.68355*	0.31205	.000	0.9517	2.4154

Note: Statistically significant differences are highlighted in bold and \*. Source: authors' own research.

have significantly lower demands on the group of financial motivational factors compared to performance workers ( $p = .002$ ) and administrative employees ( $p = .10$ ) in transport and logistics companies.

It can therefore be stated that performance workers are not so strongly oriented towards the professional field and professional growth in it, but their attention is more focused on financial remuneration than in hierarchically higher positions. On the contrary, managers no longer consider only financial remuneration (basic salary, additional financial remuneration and fair evaluation) as important, but higher demands on their qualification and career development (career growth, competences, personal growth and education), professional orientation (content and type of work) as well as the recognition, respect and satisfaction of the ego (self-realisation, independent decision-making, Possibility to apply one's own abilities and prestige).

**Table 4.** ANOVA test of preference of motivational factors according to the job category.

Motivational factor		Sum of squares	df	Mean square	F	p Value
1 Workplace atmosphere	Between groups	3.333	2	1.666	2.687	.068
	Within groups	1463.782	2360	0.620		
	Total	1467.115	2362			
2 Good team	Between groups	5.728	2	2.864	4.902	<b>.008</b>
	Within groups	1378.916	2360	0.584		
	Total	1384.644	2362			
3 Additional financial remuneration	Between groups	11.037	2	5.518	8.271	<b>.000</b>
	Within groups	1574.560	2360	0.667		
	Total	1585.596	2362			
6 Workplace communication	Between groups	10.088	2	5.044	7.182	<b>.001</b>
	Within groups	1657.381	2360	0.702		
	Total	1667.468	2362			
7 Prestige of company name	Between groups	9.121	2	4.560	4.116	<b>.016</b>
	Within groups	2614.857	2360	1.108		
	Total	2623.978	2362			
8 Possibility to apply one's own abilities	Between groups	21.638	2	10.819	14.697	<b>.000</b>
	Within groups	1737.256	2360	0.736		
	Total	1758.894	2362			
14 Career growth	Between groups	13.260	2	6.630	6.889	<b>.001</b>
	Within groups	2271.257	2360	0.962		
	Total	2284.517	2362			
15 Competences	Between groups	42.724	2	21.362	21.649	<b>.000</b>
	Within groups	2328.673	2360	0.987		
	Total	2371.397	2362			
16 Prestige of the job position	Between groups	12.334	2	6.167	6.264	<b>.002</b>
	Within groups	2323.317	2360	0.984		
	Total	2335.651	2362			
17 Supervisor's approach	Between groups	0.329	2	0.165	0.249	.780
	Within groups	1562.707	2360	0.662		
	Total	1563.036	2362			
18 Independent decision-making	Between groups	16.514	2	8.257	9.747	<b>.000</b>
	Within groups	1999.256	2360	0.847		
	Total	2015.770	2362			
19 Self-realisation	Between groups	21.744	2	10.872	12.527	<b>.000</b>
	Within groups	2048.297	2360	0.868		
	Total	2070.041	2362			
21 Fair evaluation	Between groups	4.192	2	2.096	2.911	<b>.055</b>
	Within groups	1699.261	2360	0.720		
	Total	1703.453	2362			
26 Education and personal growth	Between groups	29.099	2	14.550	14.164	<b>.000</b>
	Within groups	2424.279	2360	1.027		
	Total	2453.378	2362			
29 Recognition (working)	Between groups	2.327	2	1.163	1.459	.233
	Within groups	1882.091	2360	0.797		
	Total	1884.418	2362			
30 Basic salary	Between groups	3.166	2	1.583	2.269	.104
	Within groups	1646.748	2360	0.698		
	Total	1649.914	2362			

Note: Statistically significant differences are highlighted in bold.

Source: authors' own research.

The groups of motivational factors (financial, relationship and career) that were determined as significantly different with respect to the job placement were subsequently investigated in terms of differences in motivation factors relevant to the selected group. Using the ANOVA test, mean values of motivation factor preferences by job category were tested to detect significant differences at a significance level of 5%. The null statistical hypothesis speaks of equality of averages within the categories of occupation and the results of the ANOVA test (Table 4) refuted this hypothesis in favour of an alternative one. The ANOVA test at a significance level of 5% evaluated

statistically significant differences in 11 motivational factors (out of 16 factors) in terms of preference of categories within job placements: good team ( $p = .008$ ), additional financial remuneration ( $p = .000$ ), workplace communication ( $p = .001$ ), prestige of company name ( $p = .016$ ) and prestige of the job ( $p = .002$ ), Possibility to apply one's own abilities ( $p = .000$ ), career growth ( $p = .001$ ), competences (powers) ( $p = .000$ ), independent decision-making ( $p = .000$ ), self-realisation ( $p = .000$ ), education and personal growth ( $p = .000$ ).

Tukey's HSD test (Table 5) is used to determine closer relationships in determined significant differences. At a significance level of 5%, significantly higher preferences for managers in terms of career factors are found:

- as opposed to performance workers of the 'prestige of the company name' ( $p = .012$ ),
- as opposed to administrative staff 'prestige of the job position' ( $p = .001$ ), competences ( $p = .001$ ) and independent decision-making ( $p = .000$ ),
- *versus* the two lower hierarchical levels for 'exercising one's own abilities' ( $p = .000$ ), 'career growth' ( $p = .001$  *versus* performance workers  $p = .005$  with administrative staff), 'self-realization' ( $p = .000$  *versus* performance workers  $p = .001$  with administrative staff), 'education and personal growth' ( $p = .000$ ).

Managers have lower preferences as part of their additional financial remuneration over other job categories. Performance workers have significantly lower preferences over higher hierarchical levels in terms of factors – good team and workplace communication. It can therefore be stated that performance workers are not so strongly oriented towards the professional field and professional growth in it, but their attention is more focused on financial remuneration than in hierarchically higher positions.

### 3.2. Verification of hypotheses and discussion of research results

The article assumes that the preferences of five groups of motivational factors (of employees of Czech logistic and transport companies) can be in terms of job classification without statistically significant differences. This fact was therefore tested using the ANOVA and Tukey's HSD test. Based on the results it is possible to verify or disprove the established working hypotheses:

- The working hypothesis PH1 is confirmed in favour of an alternative at a significance level of 5% ( $p = .002$ ) based on the ANOVA test (Table 2). On the basis of performed statistical tests, significant differences within the preferences of financial motivational factors (required status – PS) in terms of job classification were determined. The HSD Tukey's test (Table 5) revealed significant differences in the motivational factor 'further financial reward' at a significance level of 5%. According to the results, managers have significantly lower preferences in terms of additional financial remuneration compared to administrative staff ( $p = .008$ ) and performance staff ( $p = .000$ ).
- The working hypothesis PH2 is disproved. Based on the ANOVA test (Table 2), where no statistically significant difference (at a significance level of 5%,  $p = .316$ )

**Table 5.** Tukey's HSD preference test of selected motivational factors according to job classification.

Dependent variable			Mean difference	Std. error	p Value	95% Confidence interval	
						Lower bound	Upper bound
2 Good work team	Performance workers	Administrative w. Managers	-0.096*	0.036	.022	-0.18	-0.01
		Administrative w. Managers	-0.113*	0.042	.020	-0.21	-0.01
	Administrative workers	Performance w. Managers	0.096*	0.036	.022	0.01	0.18
		Performance w. Managers	-0.017	0.041	.910	-0.11	0.08
		Administrative w. Managers	0.113*	0.042	.020	0.01	0.21
		Administrative w. Managers	0.017	0.041	.910	-0.08	0.11
3 Additional financial remuneration	Performance workers	Administrative w. Managers	0.050	0.038	.397	-0.04	0.14
		Administrative w. Managers	0.179*	0.045	.000	0.07	0.28
	Administrative workers	Performance w. Managers	-0.050	0.038	.397	-0.14	0.04
		Performance w. Managers	0.130*	0.044	.008	0.03	0.23
		Performance w. Managers	-0.179*	0.045	.000	-0.28	-0.07
		Administrative w. Managers	-0.130*	0.044	.008	-0.23	-0.03
6 Workplace communication	Performance workers	Administrative w. managers	-0.093*	0.039	.049	-0.19	0.00
		Administrative w. managers	-0.170*	0.046	.001	-0.28	-0.06
	Administrative workers	performance w. Managers	0.093*	0.039	.049	0.00	0.19
		performance w. Managers	-0.077	0.045	.193	-0.18	0.03
		Performance w. Managers	0.170*	0.046	.001	0.06	0.28
		Administrative w. Managers	0.077	0.045	.193	-0.03	0.18
7 Prestige of company name	Performance workers	Administrative w. Managers	-0.058	0.050	.467	-0.17	0.06
		Administrative w. Managers	-0.165*	0.058	.012	-0.30	-0.03
	Administrative workers	Performance w. Managers	0.058	0.050	.467	-0.06	0.17
		Performance w. Managers	-0.106	0.056	.140	-0.24	0.03
		Performance w. Managers	0.165*	0.058	.012	0.03	0.30
		Administrative w. Managers	0.106	0.056	.140	-0.03	0.24
8 Possibility to apply one's own abilities	Performance workers	Administrative w. Managers	-0.028	0.040	.770	-0.12	0.07
		Administrative w. Managers	-0.239*	0.047	.000	-0.35	-0.13
	Administrative workers	Performance w. Managers	0.028	0.040	.770	-0.07	0.12
		Performance w. Managers	-0.211*	0.046	.000	-0.32	-0.10
		Performance w. Managers	0.239*	0.047	.000	0.13	0.35
		Administrative w. Managers	0.211*	0.046	.000	0.10	0.32
14 Career growth	Performance workers	Administrative w. Managers	-0.025	0.046	.851	-0.13	0.08
		Administrative w. Managers	-0.188*	0.054	.001	-0.31	-0.06
	Administrative workers	Performance w. Managers	0.025	0.046	.851	-0.08	0.13
		Performance w. Managers	-0.163*	0.052	.005	-0.29	-0.04
		Performance w. Managers	0.188*	0.054	.001	0.06	0.31
		Administrative w. Managers	0.163*	0.052	.005	0.04	0.29
15 Competences	Performance workers	Administrative w. Managers	0.086	0.047	.155	-0.02	0.20
		Administrative w. Managers	-0.259*	0.054	.000	-0.39	-0.13
	Administrative workers	Performance w. Managers	-0.086	0.047	.155	-0.20	0.02
		Performance w. Managers	-0.345*	0.053	.000	-0.47	-0.22
		Performance w. Managers	0.259*	0.054	.000	0.13	0.39
		Administrative w. Managers	0.345*	0.053	.000	0.22	0.47
16 Prestige of the job position	Performance workers	Administrative w. Managers	0.069	0.047	.299	-0.04	0.18
		Administrative w. Managers	-0.118	0.054	.076	-0.25	0.01
	Administrative workers	Performance w. Managers	-0.069	0.047	.299	-0.18	0.04
		Performance w. Managers	-0.187*	0.053	.001	-0.31	-0.06
		Performance w. Managers	0.118	0.054	.076	-0.01	0.25
		Administrative w. Managers	0.187*	0.053	.001	0.06	0.31
18 Independent decision-making	Performance workers	Administrative w. Managers	0.102*	0.043	.049	0.00	0.20
		Administrative w. Managers	-0.113	0.050	.065	-0.23	0.01
	Administrative workers	Performance w. Managers	-0.102*	0.043	.049	-0.20	0.00
		Performance w. Managers	-0.215*	0.049	.000	-0.33	-0.10
		Performance w. Managers	0.113	0.050	.065	-0.01	0.23
		Administrative w. Managers	0.215*	0.049	.000	0.10	0.33
19 Self-realisation	Performance workers	Administrative w. Managers	-0.068	0.044	.267	-0.17	0.03
		Administrative w. Managers	-0.252*	0.051	.000	-0.37	-0.13

(continued)

**Table 5.** Continued.

Dependent variable			Mean difference	Std. error	<i>p</i> Value	95% Confidence interval	
						Lower bound	Upper bound
26 Education and personal growth	<b>Administrative workers</b>	Performance w.	0.068	0.044	.267	-0.03	0.17
		<b>Managers</b>	-0.183*	0.050	.001	-0.30	-0.07
	<b>Managers</b>	<b>Performance w.</b>	0.252*	0.051	.000	0.13	0.37
		<b>Administrative w.</b>	0.183*	0.050	.001	0.07	0.30
	<b>Performance workers</b>	Administrative w.	-0.064	0.048	.373	-0.18	0.05
		<b>Managers</b>	-0.288*	0.055	.000	-0.42	-0.16
	<b>Administrative workers</b>	Performance w.	0.064	0.048	.373	-0.05	0.18
		<b>Managers</b>	-0.224*	0.054	.000	-0.35	-0.10
	<b>Managers</b>	<b>Performance w.</b>	0.288*	0.055	.000	0.16	0.42
		<b>Administrative w.</b>	0.224*	0.054	.000	0.10	0.35

Note: Significantly different results are highlighted in bold and \*Source: authors' own research.

was determined for the preferences of the group of work motivational factors (as a whole) among employees of Czech transport and logistics companies among different job categories (manager, administrative staff and performance staff).

- The working hypothesis PH3 is disproved. Based on the ANOVA test (Table 2), where no statistically significant difference (at a significance level of 5%,  $p = .727$ ) was determined for the preferences of the group of social motivational factors (as a whole) among employees of Czech transport and logistics companies among different job categories (manager, administrative staff and performance staff).
- The working hypothesis PH4 is confirmed in favour of an alternative at a significance level of 5% ( $p = .006$ ) based on the ANOVA test (Table 2). Based on the performed statistical tests, significant differences within the group of preferences of relational motivational factors (as a whole) in terms of job classification were determined. The ANOVA test (Table 4) revealed significant differences in two of the four motivational factors, namely: 'good team' ( $p = .008$ ) and 'communication' ( $p = .001$ ) at a significance level of 5%. Performance staff has significantly lower demands on these motivational factors compared to administrative and managerial staff (Table 5).
- Also, the working hypothesis PH5 is confirmed in favour of an alternative at a significance level of 5% ( $p = .000$ ) according to the ANOVA test results (Table 2). Significant differences were identified within the group of preferences of career motivational factors (as a whole) in terms of job classification of employees in Czech transport and logistics companies. The ANOVA test (Table 4) identified (with 95% probability) significant differences in eight out of nine career motivational factors, namely: prestige/company name ( $p = .016$ ), possibility to apply of one's own abilities ( $p = .000$ ), career growth ( $p = .001$ ), competences ( $p = .000$ ), Prestige – job position ( $p = .002$ ), independent decision-making ( $p = .000$ ), self-realisation ( $p = .000$ ), Education and personal growth ( $p = .000$ ). Managers (Table 5) have significantly higher preferences over performance and administrative staff in terms of competences, career growth, education and personal growth, possibility to apply of one's own abilities and self-realisation. For the prestige of the company name, the manager puts significantly higher importance on this factor compared to the performance staff.

The most important (Figure 1) motivational factor for employees of transport and logistics companies is the group of relational and financial factors. Similarly, Nielsen et al. (2019) state that financial incentives in public administration conditions do not always bring the expected benefits. The study of the relationship between stress and financial evaluation (Dobrodolac et al., 2018) presents that employees perceive their motivational primarily in relation to the level of salary, which only partially corresponds with our results. The results of our research show significant differences between performance workers, administrative staff and managers in financial, relationship and career motivational factors. Financial motivation (more precisely, further financial remuneration) plays a very important role for performance workers, and by increasing the hierarchical level this preference decreases slightly (probably due to better financial remuneration at higher levels). In other words, there is an assumption that the more the financial need is met, the more its importance decreases (in favour of relationship and career motivational factors), which would be in line with Maslow's theory. This assumption is supported by the results of a comparative study (Vaitkuviene et al., 2010). The preference of incentives for chemical industry employees in Lithuania and Sweden shows the highest Lithuanian employees' preferences for financial bonuses and subsequently working conditions and days off. On the other hand, good working conditions, days off and flexible work schedules have the greatest weight for Swedish employees. The authors of the study state that employees from countries with different levels of economic development (in 2010 – Lithuania and Sweden) are interested in financial and non-financial (psychological) motivation tools. However, employees' attitudes to motivation tools differ: Lithuanians prefer financial incentives, while Swedish employees consider non-financial incentives to be more important. The preference of the level of financial remuneration for performance workers and administrative staff was also proved by the results of the research (Conțiu et al., 2012; Ghimire et al., 2013; Milne, 2007), which corresponds to the outputs of this work. Kampkötter (2017) states that evaluation without financial implications does not have a positive impact on work motivation. The study (Lorincová, Hitka, et al., 2016) of motivational preferences for the senior management category more closely corresponds to our findings. This study focuses on the classification of employees' motivation according to gender and job classification in the conditions of the Slovak economy. Slovak senior management favours the atmosphere and relationships in the workplace (both men and women) over the actual amount of financial remuneration (basic salary). According to the study of performance and administrative positions, salaries and, consequently, relational factors followed by fair wage evaluation are at the forefront of importance in preferences. Similar research results are presented by Rynes et al. (2004), who states in their publication that it is disadvantageous to 'go below' the market price of financial remuneration from the point of view of quality human resources, and it is advantageous to be 'above it'. Subsequently, employees' decisions are made on a multidimensional basis, where factors other than wages can be a competitive advantage for the employer.

The results of Raziq and Maulabakhsh (2015) research show that interactions and relationships between people played a more important role than money in overall work motivation, while management skills, time and energy were necessary to



improve the overall performance of the organisation. This partly corresponds to the findings presented in this article, as the importance of these relationship factors is higher in administrative and managerial positions, and at these higher hierarchical levels there is a greater emphasis on professionalism and personal professional development and career growth. This tendency is positive in terms of the inevitable application of change management principles in the framework of the progressive technological change of the 4th Industrial Revolution. The introduction of new technologies cannot do without the ability to adapt and learn at all hierarchical levels. The most important change in attitude, understanding and thinking must come from higher hierarchical levels. The introduction of elements of industry 4.0 in the Czech Republic is considered to be risky for management, mainly because of 'step into the unknown', i.e., there are not enough successful applications – good experience that companies could learn from. The shortcomings of the studies of the integration of elements of industry 4.0 and hence the lack of confidence in new procedures by the top management are already expected obstacles (Marik, 2016). Changes under these assumptions may increase the level of stress (Jiménez, Dunkl, Peišl, 2015; Jiménez, Dunkl, Stolz, 2015; Vlacseková, 2019) may have a negative effect on the perception of employee satisfaction. Creating suitable conditions for quality employees in key positions represents a reduction in the risk of their loss and a possible increase in loyalty to the company (Jigjiddorj et al., 2019). An equally important attribute is the acquisition and retention of the required changed human resources structure even in the lower positions of the company hierarchy. Retraining of current employees is one way of securing them (Batarliené et al., 2017; Lambert et al., 2008). These trends also affect transport and logistics within Central Europe (Batarliené et al., 2017). Not only in this category of employees it is appropriate to operate with a constructively targeted motivation system, which will increase the satisfaction of selected groups of employees and according to Manzoor (2011) also the performance of the company. According to Jigjiddorj et al. (2019), higher loyalty of company employees is a secondary effect of their satisfaction. Targeting of the incentive programme for individual categories of employees is more efficient and at the same time less costly and time consuming. Therefore, the use of the presented outputs of this article is suitable in the development of targeted motivational programmes in the environment of Czech transport and logistics companies. It is necessary to take into account the fact that the requirements for motivation of employees can change even after meeting their needs with regard to the regional level (Mikkelsen et al., 2017) and also the current economic situation of the region and sector type can play an important role (Lorincova, Schmidtova, et al., 2016), which may explain the change in motivation over time (Greiner, 2018). Continuous monitoring of the effectiveness of the existing incentive system and its possible diversification is therefore appropriate.

#### 4. Conclusion

The current globalised labour market is changing turbulently with the business environment. The lack of quality human resources in the labour market in transport and logistics puts enterprises in a difficult situation. Creating the right incentives for work

can help enterprises to attract and retain quality and loyal human resources. It is human capital that will create a unique competitive advantage when introducing elements of artificial intelligence, because upcoming changes are a real challenge for management and their proper grasp will be a priority for enterprises. The aim of the article was to determine statistically significant differences in motivational preferences of employees of transport and logistics companies in the Czech Republic in the context of their job classification (performance worker, administrative staff and manager). The results point to significant differences, especially within the career and relationship motivational preferences of managers, compared to the lower preference of employees at lower hierarchical levels. Conversely, managers give lower importance to the set of financial incentives than administrative and performance staff. The results of this article complement the knowledge of work motivation and satisfaction with specifics in the environment of transport and logistics enterprises in the Czech Republic. The presented results enrich the knowledge base with specific data on the preference (importance) of motivational factors, which are practically applicable for enterprises in practice.

In view of the results, questions for further research open up. An interesting finding for more targeted creation of motivational programmes would be to find out differences with respect to individual age categories according to job classification. Also, the results provide the assumption that higher hierarchical levels have lower preferences to financial rewards because of their greater satisfaction in this area. The question arises as to whether this preference will continue even if managers are not sufficiently satisfied in terms of financial remuneration. Confirmation of this assumption is subject to further possible research. Also, change over time and depending on selected attributes (location, economic situation of the region, labour market situation, economic sector and others).

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