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DETERMINANTS OF SATISFACTION

OF THE EMPLOYEES OF LOCAL

GOVERNMENT UNITS

ABSTRACT. This article attempts to identify factors

influencing the satisfaction of employees of the local

government units on the basis of surveys conducted. To

measure satisfaction of the Local Government Units

(LGU) employee there are used 23 variables scaled using

an ordinal five grade scale. In order to reduce and group

the number of variables an exploratory factor analysis was

used. Its use allowed us to isolate four factors, which were:

cooperation in the provision of services, career development stability, relationships with superiors and

material working conditions. Then there was checked the fitting of the hypothetical factor model to the covariance

matrix of observable variables and estimate of the

parameters of the factor model using the confirmatory

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Introduction

Employee satisfaction is becoming an increasingly important issue for companies. It is an aid to construction and modification of the motivation system. Based on its level one can conclude the employee attitude towards the company and its clients as well as the relationships between co-workers and superiors. The problem of employee satisfaction has been present in the organization and management literature for several decades, the very beginnings of the employee satisfaction survey can be found in the work of the representatives of the classical school of management (e.g. F.W. Taylor), and school of human relations (E. Mayo and A. Maslow). Currently, it is used in the theories of motivation. The first author of this theory is considered to be F. Herzberg – author of the two-factor theory of motivation¹. Comprehensive, rich achievements in the field of motivation have been

factor analysis.

¹ Herzberg's two-factor theory of motivation is also reflected in the primary division of satisfaction factors presented in the form of two-factor theory of satisfaction. According to it, some attributes of the product only prevent customer dissatisfaction, and other shape his satisfaction.

grouped by E. McKenna and N. Beech (McKenna, Beech, 1997, pp. 188-192) in six main concepts of motivating together with their authors, namely:

- economic man F. Taylor,
- human relations E. Mayo,
- hierarchy of needs A. Maslow, F. Herzberg,
- theory of expectations L.W. Porter, E. Lawler, V.H. Vroom,
- goal setting G.P. Latham, E. A. Locke,
- equity theory J. S. Adams.

Out of the above groups in terms of employee satisfaction most frequently mentioned in addition to the theory of Herzberg are: J. R. Hackman and G. R. Oldham's job characteristic theory, V. H. Vroom's theory of expectations and the theory of fairness by J. S. Adams.

The concept of job satisfaction has been defined by A. Locke (Brief, Weiss, 2001, p. 282) as 'a pleasurable or positive emotional state resulting from the perception by the individual of his/her job as implementing or giving the opportunity to realize significant values available in the work, provided that these values are consistent with his/her needs'. In the literature, also the other authors' definitions are cited, such as L. Levy-Garboua and others (2007), A. Togia and others (2004). Levy-Garboua *et al.* (Lèvy-Garboua, Montmarquette, Simonnet, 2007) defined employee satisfaction as 'an index of preference for the experienced job against outsider opportunities conditional on information available at time'. Togi *et all.* (2004) employee satisfaction reverse to the expectations of the employee about the workplace and his attitudes towards his job. Therefore, the term employee satisfaction can be variously defined, for instance as a set of beliefs and opinions about one's work, additionally taking into account the emotional component accompanying doing this work, as well as employee behaviour caused by a reaction to the circumstances of the work.

Satisfaction measurement applies to both private and the public sector employees. Problem discussed in the literature includes comparing the satisfaction level of employees in both sectors. Results of analyses in this area do not give rise to a clear assertion of greater satisfaction of employees of one sector over another. You can find the results of studies showing lower satisfaction of public organizations employees, as well as the lack of difference. Other studies indicate that some aspects of working in the public sector result in more satisfied employees (Yau-De Wang, Yang, Wang, 2012, p. 558). Lack of clarity in this area can be caused by external or internal aspects of employee satisfaction. D.S. Scheider and B.C. Vought (Schneider, Vaught, 1993, pp. 68-83) argue that in varying degrees the external and internal aspects of public organizations are more satisfied with the internal aspects and less with external aspects than private sector employees. H.G. Rainey and B. Bozeman (Rainey, Bozeman, 2000, pp. 447-469) indicate that the causes of lower satisfaction of employees in the public sector with the external aspects of their work are restrictions imposed as a result of the bureaucracy.

This article attempts to identify factors influencing the satisfaction of employees of local government units, on the basis of surveys conducted.

1. Satisfaction of employees in the public sector – determinants. Methods of measurement

Among the works on the factors of satisfaction of public sector employees the following can be identified: A. Luchak and I. Gettatly (2002), S. Kim (2002; 2009), B. Steijn (2002), S. Bodur (2002), I.R. Willems *et al.* (2004), N. Tsigillis and others (2006), S. Choi (2008), M.A. Badran and J.H. Kafafy (2008), K. Yang and A. Kasserkert (2009), V. Gordon *et al.* (2010). Their studies indicate among other things various factors affecting the

satisfaction of public sector employees. The widest set of factors influencing employee satisfaction is presented by the works of M. Gupta and P. Sharma (2009) or I.R. Willems *et al.* (2004). The opposite of a wide range of factors are the results of research presented in the work of S. Kim (2002) and S. Bodur (2002).

Among the identified factors the elements appear, which are present in the case of private sector research: leadership, supervisor, salary, recognition, rewards, promotions. Summary of the factors determining the satisfaction of public sector employees is shown in *Table 1*.

Table 1. Summary of the factors determining the satisfaction of public sector employees

	Leadership/ Supervisor/management	Empowerment – participative management	Salary. recognition- rewards -promotions	Team work and cooperation	Training program – career development	Working conditions	Communication	Family -friendly policies	Corporate culture	Compensation	Job itself (task. work load tec)	Organization as a whole	Emotional exhaustion	Performance management	Demographics	Co-workers	Country study performed
Kim (2002)		Х			Х		Х										USA
Steijn (2002)	Х		Х			Х					Х				Х		Germany
Bodur (2002)			Х				Х				Х				Х		Turkey
Willems <i>et all.</i> (2004)	X	Х	Х			X					Х	Х			X		Belgium
Tsigilis <i>et al.</i> (2006)	Х		X			X					Х	X	X				Greece
Gupta and Sharma (2009)	X	X	X	X	X	X	Х		X								India
Kim (2009)		Х	Х		Х		Х	Х									USA
Yang and Kassekart (2009)																	USA
Chang. Chiu. Chen (2010)	Х	X		Х	X					X							Taiwan
Gordon <i>et al.</i> (2010)	X		X		X	X										X	USA

Source: A. Turkyilmaz G. Akman, C. Ozkan, Z. Pastuszak, Empirical study of public sector employee loyalty and satisfaction, *Industrial Management & Data Systems*, 2011, Vol. 111, no. 5, p. 680.

Among the methods of measuring the employee satisfaction most frequently mentioned are: Job Diagnostic Survey (JDS), Job Satisfaction Survey (JSS), Job Descriptive Index (JDI), Minnesota Satisfaction Questionnaire (MSQ). Job In General Scale (JIG).

Michigan Organizational Assessment Questionnaire (MOAQ). Each of them has its own set of variables for employee satisfaction surveys. Based on these methods we can assume that the following variables are the common parts: the effectiveness of the company, corporate communications, relationships with supervisors and co-workers, participation in decisionmaking process, awareness of the company purpose and strategy, job descriptions, career and development opportunities and material issues. However, not every method of employee satisfaction measuring is suitable for public sector organizations. N. van Saane and others (van Saane, Sluiter, Verbeek, Frings-Dresen, 2003) tested the reliability and accuracy of 29 different methods of measuring the employee satisfaction. The purpose of this action was to find a suitable instrument for testing hospital staff. According to them only seven of the analyzed methods met the specified requirements for reliability and validity, among them "Measure of Job Satisfaction" (MJS) had the highest accuracy.

2. Research methodology

The purpose of the survey conducted in November – December 2009 and in June – July 2010 in the 16 local government units in the zachodniopomorskie voivodship was to measure employee satisfaction with services provided by local governments². A total of 1080 respondents were examined (of which in the first study 611 employees were examined. and in the second study – 469). The detailed structure of the sample is presented in *Table 2*. The survey was conducted through direct questionnaires and was based on assessment of service attributes such as: reliability, responsibility, confidence, empathy and tangibility, and assigning weights to them. Service attributes were specified in the form of 23 questions. In which the assessment was carried out on the basis of a five grade ordinal scale³.

			First su	rvey	Second su	rvey
Pos.		Specification	Number of examined employees	Share (in %)	Number of examined employees	Share (in %)
	Total		611	100	469	100
		shorter than one year	51	8.36	34	7.25
		1-5 years	183	30.0	153	32.62
	Period of	6-10 years	147	24.1	93	19.83
1	employme	over 10 years	188	30.82	158	33.69
	nt	intervention worker	11	1.80	11	2.35
		apprentice / trainee	22	3.61	19	4.05
		no response	8	1.31	1	0.21
	D :/: ·	basic level. directly serving the client	302	49.59	234	49.89
2	Position in organisatio	basic level. not directly serving the client	137	22.5	135	28.78
	n structure	middle level	112	18.39	75	15.99
		higher level	48	7.88	23	4.90
		no response	10	1.64	2	0.43

Table 2. Structure of examined subjects

² Survey was a part of a task "Satisfaction of the Authority Offices Clients and Employees" implemented as a part of the project "Implementation of Managerial Improvements in Local Government Units in Zachodniopomorskie Voivodship". Project Coordinator: Dr hab. Prof. US T. Lubińska, Task Coordinator: Dr hab. Prof. US Jolanta Witek.

³ Where 1 - very poor, 2 - poor, 3 - average, 4 - good, 5 - very good.

Source: Own calculations based on the results of research.

Conducted survey made it possible to gather information on:

- General assessment of the atmosphere at work,
- The relevance for employees of different elements, which guarantee a good level of services that is reliability, responsibility, confidence, empathy and tangibility,
- Expectations in respect of the elements of the quality of work and collaboration with employees,
- An assessment of the current situation with regard to elements of the quality of work and collaboration with employees.

To estimate the accuracy of measurement of the Cronbach coefficient α was used, which is one of the most widely used measures for the homogeneity of the scale. This coefficient ranges from 0 to 1, but there is no agreement in the literature as to its sufficient value. For some authors satisfactory values are those having a value greater than 0.6 (Dyduch, 2011, p. 113) or 0.7 (Churchill, 1979; Peter 1979), other distinguish three levels of research for which they suggest the minimum rate (preliminary research – the coefficient of at least 0.7; basic research – the value of 0.8; applied research – the value of 0.90-0.95) (Nunally, 1978). The results of the reliability analysis of four factors for both studies are presented in *Table 3*.

Subscales	First study	Second study
cooperation in the provision of services	0.90	0.92
career stability	0.82	0.85
relations, cooperation with supervisor	0.85	0.85
material conditions of work	0.80	0.83

Table 3. The reliability of the four subscales for the two measurements

Source: own study based on the survey results.

3. Factors influencing employee satisfaction

The assumption of a quasi- quantitative ordinal scale allowed for the use of quantitative methods reserved for the strong scales⁴. The use of factor analysis made it possible to transform the particular mutually correlated set of variables into a new set system of variables (so-called common factors) mutually uncorrelated, but comparable to the initial system. At the same time the authors are aware that the used factor analysis is only a starting point and not the end point of the search.

Prior to extracting the latent variables with use of the factor model the validity of its use was tested by evaluating correlation of variables, and the significance of these relations. In this purpose, Bartlett's test of sphericity, KMO (Kaiser – Meyer – Olkin) statistics and MSA (Measure of Sampling Adequacy) were applied. The values of MSA statistics for individual variables are listed in *Table 4*.

Bartlett's test of sphericity relates to verification of the hypothesis of no significant correlations between variables (the null hypothesis assumes that the matrix of correlation coefficients between the variables is an identity matrix). Rejection of the null hypothesis

⁴ Many statisticians referring to the authority of Karl Pearson say that the measurements on the range (ordinal) scale are only the result of the categorization of some hidden variable, which, in fact, has the sectional nature. P. Francuz, R. Mackiewicz (2005), Liczby nie wiedzą, skąd pochodzą. Przewodnik po metodologii i statystyce, ed. KUL, Lublin, p. 390.

proves the validity of analysis. Bartlett's statistics values for the first and second test were respectively: $\lambda^2 = 7016,81$ and $\lambda^2 = 7849,34$. They are statistically significant at least at the level $\alpha = 0,000$. It is therefore necessary to reject the null hypothesis which proves the validity of the taken analytical approach.

Variable	MSA	statistic	Variable	MSA statistic			
variable	First study	Second study	variable	First study	Second study		
X ₁	0.909	0.936	X ₁₃	0.954	0.963		
X ₂	0.914	0.934	x ₁₄	0.950	0.977		
X ₃	0.934	0.946	x ₁₅	0.955	0.934		
X 4	0.952	0.945	X16	0.923	0.924		
X 5	0.939	0.962	X ₁₇	0.901	0.843		
x ₆	0.926	0.940	x ₁₈	0.770	0.817		
\mathbf{X}_7	0.971	0.964	X19	0.756	0.911		
X8	0.941	0.968	X20	0.886	0.947		
X9	0.964	0.966	X ₂₁	0.894	0.947		
X ₁₀	0.955	0.971	X ₂₂	0.903	0.889		
X ₁₁	0.954	0.960	X ₂₃	0.854	0.904		
X ₁₂	0.954	0.963	-	-			

Table 4. Values of MSA statistics

Source: Own calculations using IBM SPSS Statistics 21.

KMO and MSA indicators allow initially eliminate the variables, among which the correlations are low, what may cause that the extracted factors are difficult to interpret. The limit values for the indicator KMO and MSA are adopted at the level of 0.7 and 0.5 respectively. KMO index is estimated for the entire set of variables and the MSA for each variable. In the first study, KMO index value was 0.919 at the significance level $\alpha = 0,000$. In the second study, this value increased to 0.938 with significance level $\alpha = 0,000$. In both cases, the KMO statistics were high and did not suggest reduction of the adopted set of variables. These results are also confirmed by the values of MSA statistics for individual variables (see *Table 2*). There was not found the case for which the MSA statistics value was lower than the limit value of 0.5. Bartlett's test score and the high values of KMO and MSA statistics suggested the inclusion of all variables in the factor model.

The factor analysis of the results of two satisfaction surveys of local governments employees has led to the isolation of four common factors – 'cooperation in the provision of services', 'stable career', 'relations / cooperation with supervisor' and 'material conditions of work', on basis of which satisfaction of employees of municipalities or counties can be described. *Table 5* shows the values of factor loadings for the results of the two studies. The distinguished factors include the following variables:

Factor 1 – cooperation in the provision of services:

- Timely errands between co-workers (1),
- Reliable errands between co-workers (2),
- The desire to help from the other office workers (3),
- Co-operation in dealing with client issues with other office staff (4),
- The other workers' desire to help in crisis situations (5),
- Identification of the employees with the office (7),
- Not making remarks on client issues by office staff (8),
- Adjusting the level of knowledge and skills to the held positions (9),

- Mutual respect and kindness at work (10),
- Willingness to share information helpful in taking care of the client (12),
- Communication between employees in a comprehensive way (13),
- Adaptation of working time to the needs of clients (14).
- Factor 2 stability of professional career development:
 - A sense of job security (11),
 - Financial motivation (20),
 - Non-financial motivation (21),
 - Training courses (22),

• Opportunity for professional development (23),

- Factor 3 relationships, cooperation with supervisor:
 - The supervisor's willingness to help (6),
 - An efficient flow of information between employees and supervisors (15),
 - Clarity of orders formulated by the superior (16).

Factor 4 – material conditions of work:

- Interior design (17),
- The functionality of the workplace (18),
- Availability equipment at work (19).

Table 5. Factor loadings distinguished on the basis of factor analysis with VARIMAX rotation

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13 0.627 0.166 0.426 0.135 0.614 0.181 0.408	0.069
	0.17
	0.138
14 0.389 0.245 0.249 0.059 0.366 0.138 0.467	0.22
15 0.332 0.221 0.761 0.067 0.374 0.242 0.777	0.081
16 0.262 0.176 0.83 0.094 0.289 0.244 0.816	0.128
17 0.072 0.164 0.022 0.847 0.159 0.158 0.094	0.841
18 0.114 0.143 0.037 0.881 0.137 0.197 0.091	0.877
19 0.123 0.175 0.122 0.702 0.115 0.245 0.139	0.727
20 0.1 0.711 0.119 0.337 0.242 0.692 0.155	0.276
21 0.199 0.685 0.174 0.278 0.291 0.72 0.196	6 0.172
22 0.17 0.773 0.052 0.093 0.164 0.808 0.109	
23 0.154 0.832 0.149 0.073 0.223 0.764 0.235	0.171

Source: Own calculations based on survey results.

Verification of fitting of the proposed factor model was carried out using confirmatory factor analysis (separately for both studies). This method allowed checking the theoretical accuracy of the four-factor measurement model. The method of estimation combining generalized least squares method with the method of maximum likelihood was applied. Confirmatory factor analysis results are presented in *Table 6*.

Table. 6. Fitting indices of a model of confirmatory factor analysis

Ditting outonion	V	alue
Fitting criterion	First study	Second study
Statistics χ^2	793.11	735.02
GFI (Goodness-of-Fit Index)	0.89	0.90
AGFI (Adjusted Goodness-of-Fit Index)	0.86	0.87
RMSEA (Root Mean Square Error of Approximation)	0.06	0.06

Source: Own calculations based on survey results.

In two surveys, statistics significance level χ^2 was lower than $\alpha = 0,000$ that indicates that the model is a good fit to the data. This was also confirmed by the values of other indicators listed in the *Table 5*. In the case of indices GFI and AGFI their values should be within the range < 0-1 > where the higher the value the better the fit of the model (Sztember-Lewandowska, 2008, p 104). In the analyzed four-factor model they reached the value approximately equal to 0.9 which means a good fit of the model and there is no need to modify it. As for the RMSEA index for the correct model its value should be less than 0.08 (Hu and Bentler, 1999). Thus, the value of indicator *RMSEA* = 0,06 for the analysed model also confirms its good fit to the data.

4. Analysis of separate factors influencing satisfaction of LGU employees

Average values of the separated factors in both surveys indicate that the top rating is the relationship with the superior (mean value 3.51 for the first study and 3.48 for the second. where the maximum rate is 5), and in the second place – cooperation in the provision of services (respectively 3.36 and 3.33). Lower rated are the material conditions of work (3.14 and 3.13) and the stability of the professional career development (2.88 and 2.92). Designated mean values for each factor coincide in the majority of cases with the subjective evaluation of employees' satisfaction (*Table 7*).

Table 7. Mean values of separated factors of the employees satisfaction depending on subjective evaluation of job satisfaction

Subjective evaluation of job	Cooperation in service providing		ca	lity of reer opment	coopera	tions. tion with pervisor	Material conditions of work	
satisfaction	I Study	II Study	I Study	II Study	I Study	II Study	I Study	II Study
Very good	3.82	3.76	3.26	3.42	4.12	4.05	3.34	3.6
Good	3.30	3.34	2.82	2.95	3.42	3.52	3.1	3.1
Poor	2.95	2.78	2.39	2.13	2.85	2.35	3.17	3.00
Very bad	3.25	3.00	3.00	2.00	2.50	3.00	3.5	1.83
I have no opinion	3.11	3.09	2.66	2.58	3.30	3.30	2.87	2.91

Note: The value of 1 is the minimum and 5 maximum score *Source*: Own calculations based on survey results.

Analyzing the results of the evaluation related to the employee's position in the organizational structure one can see that the people directly involved in the provision of services to the client evaluate higher the cooperation of employees (average rating of 3.4 for the first and the second study) than those that do not deal with client support (3.32 and 3.26 respectively). However, the senior and middle management assesses the development stability higher (3.56 and 3.35) than the basic level employees (2.75 and 2.85). A similar situation can be found regarding the relationship, cooperation with the supervisor. Significantly higher scores of this dimension are granted by the office managers (senior management 3.63 and 3.67 respectively) than their subordinates (3.51 and 3.44). The lowest rating of their relationship with their supervisors was granted by the basic level employees not directly involved in client service (3.49 and 3.37). Exactly the same is true for the last extracted factor – the material conditions of work. Top rating was granted to this factor by senior staff (3.31 and 3.30), the lowest by the basic level employees (3.05 and 3.13).

Given the length of employment it can be seen that persons employed for relatively short time (i.e. up to five years) significantly better evaluate all extracted dimensions than the groups of employees with longer seniority (i.e. more than 5 years). The results in this area are presented in *Table 8*.

Separate factors of employee satisfaction	employme	th short time ent seniority 5 years)	Persons with long time employment seniority (more than 5 years)		
_	I Study	II Study	I Study	II Study	
cooperation in the provision of services	3.43	3.53	3.22	3.21	
career stability	2.93	2.92	2.59	2.85	
relations, cooperation with supervisor	3.57	3.59	3.43	3.39	
material conditions of work	3.1	3.19	2.79	3.11	

Table 8. Mean values of the separated factors of employee satisfaction depending on the employment seniority

Source: Own calculations based on survey results.

Results of the measurement of expectations indicate that their level is much higher than the assessment of the current state. The lowest mean value for expectations for the separated dimensions exceeds 4 in five-grade scale. The highest level of expectations was observed in the case of relations with superiors (-4.46 in the first study; - 4.3 in the second study) and the lowest in the case of material working conditions (respectively - 4.1 and 4.06).

People who evaluate the work atmosphere as very good are characterized by a very high level of expectation for the four separated factors. The opposite are the people who assess the atmosphere as very bad and who have the lowest level of expectations, which is presented in *Figure 1*.



Figure 1. Level of LGU employees expectations depending on subjective evaluation of atmosphere at work

Source: Own calculations based on survey results.

A similar level of expectations of the people who evaluate atmosphere at work as very good and very bad is also seen in the results of the second study. This includes cooperation in the provision of services (mean rate for the employees who evaluate work atmosphere as very well -4.31 and the mean rate for the employees who evaluate work atmosphere as very bad -4.33), career development stability (respectively 4.28 and 4.33) and the relationship with the supervisor (4.45 and 4.42). Only in the case of material working conditions there is a discrepancy in the level of expectations of the two groups of employees (4.17 and 3.5).

Analysis of the results of both measurements in view of the place in the organizational structure shows a decrease in the expectations of basic-level employees. The decline in expectations level can also be seen in the case of middle and senior management. Details are presented in *Figure 2*.



Figure 2. Level of the employee expectations depending on a position in the organizational structure

Source: Own calculations based on survey results.

Having regard to a length of employment one may notice a higher level of expectations of the employees with work experience of more than 5 years than the employees with less seniority. The highest level of expectations for both groups applies to the relationship with superiors. Average rating for the employees with length of employment over 5 years is 4.55, while for the workers with seniority up to 5 years the average rating was 4.46. A similar level of expectations for both groups is noticed in case of the material working conditions. It is also the lowest level of expectations and amounts to -4.08 and 4.06 respectively.

Comparison of the results of both studies indicates a reduction in the level of expectations for all four analyzed dimensions and a higher level of expectation of the employees with less seniority (up to 5 years) than those working longer (over 5 years). Detailed results are presented in *Table 9*.

Table 9. Level of the employee expectations depending on length of employment in a local government unit

	-	ation in provision	•	of career		onships aperior	Material working conditions	
	I Survey	II Survey	I Survey	II Survey	I Survey	II Survey	I Survey	II Survey
People with short seniority (up to 5 years)	4.22	4.24	4.37	4.18	4.46	4.31	4.06	4.08
People with long seniority (over 5 years)	4.27	4.15	4.39	4.1	4.55	4.24	4.08	4

Source: Own calculations based on survey results.

Recapitulation

In accordance with the definition adopted by the OECD, the public sector includes the sector of general and local government and public enterprises, and the central bank. Large variety of the bodies, which build the public sector, is a reason that there cannot be identified one set of factors influencing employee satisfaction. In addition, the complexity of the 'employee satisfaction' concept is reflected in the variety of methods of its measurement, and also affects the number of variables used for its measurement. Subsequently it translates to the length and complexity of the description of the obtained results. The use of factor analysis made it possible to isolate four factors that can determine the level of satisfaction of local government employees. These include: collaboration in the provision of services, the stability of professional development, relationship with supervisor, and material working conditions. This allows for a clearer interpretation of the findings and their translation into the real action.

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