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KRATKO ILI PRETHODNO SAOPŠTENJE / SHORT OR PRELIMINARY REPORT

CONFIRMATORY FACTOR ANALYSIS OF ORGANIZATIONAL **EFFICINECY IN PUBLIC SECTOR: STRUCTURAL EQUATION** MODEL FOR FIVE LOCAL GOVERNMENTS IN REPUBLIC OF **SRPSKA**

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Abstract: In this paper idea is to use the Structure Equation Model approach to the model organizational structure of local governments. The hypothesis is that a complex hierarchical model can be used for improving efficiency in the public sector. The final model with satisfactory parameters showed that this is possible. Process assumed identification of an optimal set of questions as directly measured variables. Latent variables are indirectly measured by a certain set of directly measured variables. The iterative approach filters the optimal set of the directly measured variable and the optimal setting of relations between latent variables. Latent variables are organized in two levels. Certain hierarchical seating is assumed according to the relevant literature. This is confirmed with the applied structural equation model that is further used for the confirmatory factor analysis. Measured variables that are determined according to the questioner are used to extract those factors, where relations between those factors have been analyzed. Fact that organizational cohesiveness has the highest loading of 0.881, gives a conditional conclusion that for group management as whole, this is the key factor.

Keywords: latent variables, hierarchical confirmatory model, organizational evolutions in the public sector.

JEL classification: C38, C52, M14, H83

INTRODUCTION

The problem that is elaborated in this paper addresses the issue of measuring and setting hierarchical relations between group management, leadership, communication, motivation, and organizational cohesiveness in local communities in RS, where those quantities are latent variables.

The aim is to present that a complex set of structural equations can be used for measuring variables that are crucial for successful group management in local communities

The hypothesis is that group management as a latent variable can be successfully measured through other four latent variables: leadership, communication, motivation, and organizational cohesiveness.

Those variables are defined according to a set of observed variables that are defined through a survey that was implemented on a set of municipal and city administrations in Republika Srpska (RS). This empirical data set is the object on which a set of quantitative methods is applied. In this paper, we will use Confirmatory Factor Analysis, executed through Structural Equation Model to overview key factors for organizational efficiency in local governments.

SEM (Structural Equation Model) has developed from the confirmatory factor analysis (CFA) and factor analysis (FA), where both of two have their relation with principal component analysis (PCA), although the mathematically speaking there are significant differences.

Factor analysis has a slightly different mathematical approach to the same problem as principal component analysis. Both want to define patterns in several (numerous) variable variations. There are many motives to recognize regularity in different variables' co-movements. Also, sometimes researchers want to extract as much as possible information from a large set of available variables. Sometimes, analysts want to extract a few from many data series or to extract principal components, or factors. This approach can be used for problem of unmeasurable variables, or latent ones.

The latent variable cannot be measured directly but can be defined indirectly or using indicators. Indicators are measurable variables that are more or less correlated with latent variables. By measuring the pattern of their co-movements researchers can define the relative intensity of latent variable variation indirectly.

The local community, in the institutional sense, consists of employees, who again interact with the members of that local community, who by analogy can be set up as shareholders of the company that employs employees from the beginning of the sentence. All this leads us to a series of complex mutual human relations, the summarization and methodological conception of which must ultimately be extremely complex. In the methodological sense, SEM enables an adequate mathematical-statistical understanding of this problem.

Data were collected on the basis of questionnaires filled out by employees in five municipal and city administrations located in Republika Srpska (RS): Banja Luka, Laktaši, Prijedor, Stanari, and Šamac. Questionnaires were distributed in 2017. A total of 60 respondents were included. The characteristics that were included in the questionnaire are gender, age, education, and years of service. A list of questions associated with certain latent variables with descriptive statistics is given in the appendix.

LITERATURE REVIEW

Different perceptions of management in public envisages different theoretical conceptions of the same matter (Kjaer, 2004). The neoliberal concept imposes the in-

troduction of a classic business approach in the process of public administration (Peters, 1993). Such an attitude has led to the fact that in many countries it has been made a unique turn. Formerly sluggish systems, organized on a strict hierarchical principle, are turning around and becoming organized in a spirit that can be expected from market-oriented corporations. Conditionally speaking, a major test for public administration is natural disasters that affect a particular social community (Feldman, 2005), and in Bosnia and Herzegovina and Republic of Srpska that was the case during floods in 2014.

There is a need in the region to increase the efficiency of public administration. If we make parallel corporations, then the pressure on management comes from shareholders. In the case of public administration, the pressure exists, but it is politically articulated. Also, it is possible to talk about the inclusion of strategic management in the policy review process (Barney, 2005).

There is the possibility of introducing the corporate way of thinking about efficiency in public administration and that could be set as a fiscal and political imperative (Marsh, 2015). When we talk about changes in governance in public administration, we do not necessarily mean radical reversals, but we mean a certain amount of innovation in this area. By this, we mean inventiveness, ie implementation of practices, structures, and processes in management with the aim of adapting inter organizational evolutionary perspectives (Feldman, 2005).

Performing organizational evolutions in the public sector, basically means the qualitative and qualitative estimation of organization structure. Each organization has developed its own specific organizational structure in order to manage the organization more efficiently and effectively (Armstrong, 2017). Management should be responsible for establishing an organizational structure. It can be noted that building an organizational structure is a situational approach in its essence (Cherif, 2020). But, we could say that organizational design is a complex cognitive process that requires understanding and knowledge of all the factors that affect the organization (Glasø, 2018), and that individual local governments in that sense will have specific characteristics.

It is hard to define all components of organizational structure, but internal communication is one of them for sure. Internal communication is essential to avoid insecurity, gossip, and lack of motivation among employees and has become one of the major factors (Meade, 2010). Internal communication is a condition for a smooth organizational structure in the public sector.

At the core of this analysis is SEM. By using SEM, we were able to introduce latent variables into the model, and that means putting consequentially measures on variables that cannot be measured directly.

Researchers like Dastgeer and Rehman (2021), Bulut and Culha (2010), D'Netto et al. (2008), Garcia-Morales, Llorens-Montes and Verdu-Jover (2008) and Cheng (Cheng, 2001) used SEM in the field of management.

Although the application of SEM is widespread across the majority of social sciences: psychology, sociology, economics, cross-cultural research, environmental studies, marketing, tourism and management studies (Reisinger & Mavondo, 2007), it should be noted that there are also some issues related to this approach. Major issues of SEM are complexity, sample size, nature of data, and measurement model fit. (Dastgeer, ur Rehman, & Rahman, 2012).

In addition, the specification of the model must be verified through global and local fit tests before any predictions can be trusted (Antonakis, Bendahan, Jacquart, & Laliv, 2010); (Grace, et al., 2012); (McIntosh, 2007).

In this analysis, we have used R software, or to be precise lavaan package is used to estimate a large variety of multivariate statistical models, including path analysis, confirmatory factor analysis, and structural equation modeling (Rosseel, 2012).

This paper has the following structure. The next section offers an explanation of the methodical approach. After that is the result section, which is an intro for discussion. The conclusion summarizes the findings of the analysis. The presentation of questions used for data collection is aligned with descriptive statistics in the Appendix.

METHODOLOGICAL APPROACH

The CFA assumes that each factor is associated with a specific subset of measured variables. This method of analysis usually uses two approaches:

- 1. The traditional factor allows the researcher to learn more about loading insight factors.
- 2. SEM approach.

In CFA, the variables can be either observed or latent variables. Therefore, this approach is based on representing the relationship between one or more latent variables and their (observed) indicators. We can measure indicators directly, and the latent variables (factors) cannot be measured directly. Also, this approach is suitable for making large datasets interpretable. There are several observable variables that indicates one factor. There are multiple factor models where there are two or more latent variables.

The statistical parameters that we use can be divided into two large groups:

- 1. Parameters concerning the performance of the entire model
- 2. Parameters concerning the affiliation of directly measurable variables at the individual level from the point of view of its affiliation to the battery of questions for measuring the corresponding second-order latency.

The parameters concerning the performance of the whole model are primarily oriented to the possibility of improving the incremental performances of the model through iterations. There are two basic parameters

- 1. Comparative fit index of model identification CFI
- 2. Root mean square error of approximation RMSEA

The second parameter is from the family of absolute indicators, were in the context of factor analysis, i.e. the model of structural equations, we also need to mention:

- Hi square statistical test value
- Customized comparative model identification index

The intuitive meaning behind the whole model implies extracting a series of connections between directly measurable variables and those that cannot be directly measured. In our case we have group management, leadership, communication, motivation, and organizational cohesion as latent variables, and each of those is associated with a certain battery of questions presented in the Appendix. Those initial battery of questions is trimmed through an iterative process.

Also, besides global fit we need to look at:

- The parameter values validity
- Check that there are no negative residual variances

- Factor loadings and covariance must have a proper (expected) sign
- That there are no large standard errors

RESULTS

SEM assumes imposing a certain structure. In our case at the top of the hierarchy if the model is latent *Group management (UPR)*, which is a latent variable of the first order which is defined according to latent variables that are in the second row. We have latent variables that are in the second row:

- Leadership (LID)
- Communication (KOM)
- *Motivation (MOT)*
- Organizational cohesiveness (ORG).

Therefore, in the final model, we assume a hierarchically based relationship between latent variables as presented in diagram 1.

The structure of the model implies two levels where the management of groups, as latent variable, is at the top of the hierarchy of the model. The final model is the result of development that takes place in 7 phases. The initial phase of the iterative process involves measuring each of the above variables from the second level to the question batteries presented in the appendix.

Latent variables from the second level are indicators of our ultimate latent variable that we have defined as Group management (*UPR*). We started from the widest set of questions for each latent one in the second level of the model. In the iterative process, we have identified questions (directly measurable variables) that do not satisfy terms of statistical parameters.

The starting model according to the parameters, is extremely poor. The CFI is less than 0.1, the RMESE is unacceptably high at 0.38. Therefore, without the need for insight into other parameters, which would concern the "fine" calibration of the model, we can conclude that the initial battery of questions for individual latent variables is not adequate and that we must make fundamental changes in the initial model. This brings us to Model 2, which is presented in the next phase.

In the next iteration we have excluded all questions that have a *pi* value at an unsatisfactory level, Hence, The CFI is still less than 0.1, with an increase of 0.05.

We went further and then threw out questions/direct measured variables that have loadings less than 0.5 as well as those that have negative values (we are getting rid of any potential for Haywood cases). Just to mention, loadings is sort of indicator of how much a question, ie a measurable variable, "participates" in the latent variable.

In the fifth iteration, we set a certain hierarchy, taking into account certain potential restrictions that resulted from the fourth iteration. So, we now have two parts, or to be precise two hierarchically separate entities. The first part is the measurement of variables from the first level, i.e. we have measured four latent variables that are in the base level of the hierarchy. Our model has a part that measures our first-order latent variables by a set of second-order latent variables, where *Management* is first-ordered, and *Leadership*, *Motivation*, *Social cohesion* and *Communication* are second-order latent variables.

Therefore, now 4 latent variables we use to indirectly measure our supreme latent variables of interest, and that is group management.

Two additional iterations were not so crucial, yet some improvements in the overall performances were possible. To conclude, the final model can be presented with the following diagram 1.

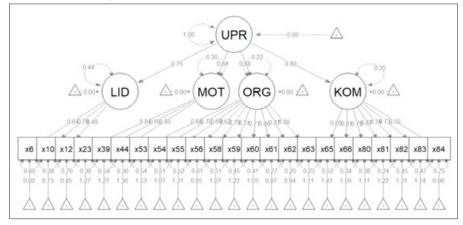


Diagram 1. Illustration of the final model after seven iterations

Source: Analysis of the authors

DISCUSSION

The first symptom of the significance of the indicator, in addition to the pi value, is the absolute size of the loading. This interpretation is quite clear: if the unit change of the directly measured variable "coincides" with the common "shifts" of the whole group of observed questions less than 30%, then it makes no sense to consider using this question for the latent variable measurement process.

The quantitative model shows the key elements of the organization's design that are placed in front of the organizational structure of local self-government. Through questions related to group cohesiveness, we tried to define the organizational structure as a latent variable. From the specific set of questions, we see that the greatest emphasis is placed on relations among employees. Through the analysis of other latent variables, we will see that the quantitative model shows that similar or the same problems are expressed when it comes to other latent variables: communication, motivation, and leadership. From the final set of questions, it can be concluded that there is a significant lack of teamwork, and that group identity is very weak and probably unsatisfactory.

From our research, it can be concluded that the observed public sector is more reminiscent of a weak group of individuals than a group focused on achieving a certain set of goals. The design of the organizational structure needs to be adjusted to the way of functioning, which will enable certain flexibility in work and communication among employees. The model of organizational structure should be adjusted to the needs of employees, which would undoubtedly lead to more efficient and productive work in the group. At the same time, the leadership role should not be neglected (question 7 with a load of 0.7)¹, and everyone should be allowed to give ideas, and suggestions and

Q7. My manager makes most decisions instead of employees. (this is variable x_7 in Diagram 1 and Appendix)

initiate activities in order to perform the work tasks in the best way. Question number 11² with a load of 0.86 indicates that with a well-established communication system, feedback on work can be obtained, all with the aim of better group work.

Organizational cohesiveness has the highest loading of 0.881. Thus, we have a high degree of agreement of "shift" with other latent variables of the first order. Thus, the conditional conclusion would be that for group management, organizational cohesion is the most important of the observed four latent variables.

The answers to the questions "We searched every conflict and misunderstanding until we reached a solution", "Group members listened carefully to each other" and "We believe in each other, talking personally about how we feel", show that organizational design such an organizational structure must be established that enables the division of teams in order to resolve certain conflicts or organizational situations that arise in the functioning of the organization itself.

Answers to the following important questions within organizational cohesion "Each member of the group found a way to contribute to the ultimate success of the work", "I was very pleased to be a member of the group", "We were free to acknowledge each other for good work done", "Group members gave and received feedback for better group work ", "We considered each other confidential; each member was a support in the group" and "Group members really respected each other", could be used for further research where the hypothesis that an adequate organizational structure should allow groups to operate within them in order to achieve better results of the organization under the influence of each individual to resolve potential conflicts and improve performances could be examined.

The application of an adequate organizational structure to the surrounding in which public administration is defined in the observed local communities, but also in accordance with the modern needs of the increasingly demanding social, political, and economic context, has become increasingly important. We should advocate gradually abandoning the inflexible organizational structure of public administration and using modern adaptable forms that are imbued with the principles of efficiency and turn it into reality.

The institutional framework must be constantly improved in general. This would mean initiating and sustaining the energy of innovation that would have its natural path from the foundations of the institutional framework. A more efficient institutional mechanism at the level of local self-governments would consequently lead to a more efficient broader institutional framework, which would ultimately lead to a more efficient general economic environment. If we set local communities as the foundation of the general institutional framework, then the importance of that segment can be compared to its complexity.

In our case, it took seven iterations to reach the optimal specification - while the parameters denoting the performance of the model have an upward path, the process continues, otherwise, the process of determining the optimal combination of variables is interrupted. Furthermore, in order to have the optimal combination of variables, we must have a large and robust basis in terms of available data. This means that we must

² 11. My manager supervises employees very directly. (this is variable x₁₁ in Diagram 1 and Appendix)

have enough wide data set in terms of variables that are measured directly, ie in our case, it means that it had a wide range of questions that are relevant from the point of view of the subject of research. We must also have an adequate depth of the controlled set of data - the representativeness of the sample must be adequate.

CONCLUSION

Based on SEM approach, we can measure variables that cannot be directly measured, which is often the case in scientific considerations of phenomena that imply social interaction. Thus, based on a series of directly measurable variables, we indirectly determine the intensity of an immeasurable variable of interest. Of course, this approach has some limitations. The complexity of the model is only one, but important because it can mean methodological settings that lead us to inadequate model specifications. This can be compensated primarily by an iterative approach, i.e. by following a kind of evolution of the model through different approaches in the specification itself. This again for the researcher often means a tedious process. The hypothesis is that group management as a latent variable can be successfully measured through other four latent variables: leadership, communication, motivation, and organizational cohesiveness has been confirmed. Those variables that are defined through a survey that was implemented on a set of municipal and city administrations in Republika Srpska (RS) have been trimmed down to the certain battery of questions that are inserted into the SEM model as observed variables. Those observed variables are used to construct the first level of latent variables: leadership, communication, motivation, and organizational cohesiveness. Further, those variables are successfully used as indicators for group management as first level latent variable in whole setting.

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APPENDIX

Table 1. Leadership - questions, labels, and basic descriptive statistics

| | .tsiH | | | | | _ | - | _ | | | - | | | | _ |
|--|------------------|--|--|--|---|---|---|--|--|---|---|--|--|--|---|
| | Stand. dev. | 0,50 | 0,48 | 0,23 | 0,29 | 0,46 | 0,44 | 0,37 | 0,23 | 0,39 | 0,49 | 0,42 | 0,36 | 0,48 | 0,37 |
| | Mean | 0,47 | 0,34 | 90'0 | 60'0 | 0,30 | 0,26 | 0,16 | 90'0 | 0,18 | 0,37 | 0,22 | 0,15 | 98′0 | 0,16 |
| | Response rate | 86′0 | 0,97 | 0,95 | 0,95 | 0,95 | 0,95 | 0,92 | 0,88 | 0,92 | 0,95 | 06'0 | 06'0 | 0,93 | 0,93 |
| described a second property and only described a second property and only on the second property and only only on the second property and only only on the second property and only only only on the second property and only only only only only only only only | noitsauQ | 1. My manager expects employees to follow his instructions consistently. | 2. My supervisor works hard to reduce tensions whenever they arise within the working group. | 3. My manager motivates employees by letting them know what will happen to them if their work is not satisfactory. | 4. My manager encourages employees to talk to him about private problems. | 5. My manager requires employees to submit a detailed report of their activities. | 6. My manager pays a lot of attention to ensuring the protection of workers at work and other benefits. | 7. My manager makes most decisions instead of the employees. | 8. My manager works on establishing close personal relationships with employees. | 9. My supervisor believes that the superior must set goals and instructions, otherwise the subordinates will be passive and will not do anything. | 10. My manager shows that he cares about employees. | 11. My manager supervises employees very directly. | 12. My manager relies on what he learns through personal contact with employeetos to make the best use of the talent of each employee. | 13. My manager expects employees to follow instructions immediately. | 14. My supervisor believes that the feelings of subordinates are just as important as the work task itself. |
| | Notation | × | x | £X | x | x5 | 9x | /x | 8× | 6x | x10 | <u>×</u> | x12 | x13 | x14 |

Source: Authors

Table 2. Motivation - questions, labels, and basic descriptive statistics

| It think I am paid fairly for the work I do. There are too few opportunities to advance in my business. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. My boss is not fair to me. My b | .tsiH | | - | 7 | | - | _ | _ | - | | | _ | | | = | | _ | - | |
|--|-------|---|---|----------------------------|--|--|---|-------------------------------------|-----------------------------|---|------------------------------|----------------------------|------------------------------|-----------------------------|---|----------------------------|---|-----------------------------|--|
| Response 0,95 0,97 0,97 0,97 0,93 0,93 0,93 0,93 0,93 0,93 0,93 0,93 0,93 0,93 0,93 0,93 0,93 | | 0,41 | 0,47 | 0,38 | 0,50 | 0,43 | 0,49 | 0,49 | 0,42 | 0,49 | 0,31 | 0,37 | 0,38 | 0,46 | 0,50 | 0,50 | 0,46 | 0,43 | |
| Response | Mean | 0,21 | 89′0 | 0,83 | 0,51 | 0,24 | 0,40 | 09'0 | 0,22 | 0,62 | 68'0 | 0,16 | 0,17 | 0,29 | 0,45 | 0,41 | 0,30 | 0,75 | |
| I think I am paid fairly for the work I do. There are too few opportunities to advance in my business. My boss is quite competent / professional for the job he does. My boss is quite competent / professional for the job he does. Nisam zadovoljan beneficijama koje dobijam. When I do a good job, I get the recognition that belongs to me. Numerous rules and procedures make it difficult to do a good job. Ilike the people I work with. Sometimes I feel like my job doesn't make sense. Communication in the organization is good. O. Raises are small and rare. I. Those who do their job well have a fair chance of being promoted. S. My boss is not fair to me. I. Those who do their job well have a fair chance of being promoted. I. Those who do their job well have a fair chance of being promoted. I. My boss is not fair to me. I. Those who do their job well bave a fair chance of being promoted. I. Those who do their job well bave a fair chance of being promoted. I. Those who do their job well bave a fair chance of being promoted. I. Those who do their job well bave a fair chance of being promoted. I. Those who do their job well bave a fair chance of being promoted. I. Those who do their job well bave a fair chance of being promoted. I. Those who do their job well bave a fair chance of being promoted. I. Those who do their job well bave a fair chance of being promoted. I. Those who do their job well bave a fair chance of being promoted. I. Those do a good job are rarely blocked. I. I have to work harder at my job because my associates are incompetent. I. I love doing jobs at my workplace. | | 26'0 | 26'0 | 76'0 | 26'0 | 26'0 | 0,88 | 76'0 | 0,92 | 0,92 | 0,93 | 96'0 | 0,88 | 0,93 | 0,93 | 0,93 | 0,93 | 26'0 | |
| Notation | | 5 1.1 think I am paid fairly for the work I do. | 6 2. There are too few opportunities to advance in my business. | 3. My boss is quite compet | 8 4. Nisam zadovoljan beneficijama koje dobijam. | 9 5. When I do a good job, I get the recognition that belongs to me. | :0 6. Numerous rules and procedures make it difficult to do a good job. | :1 7.1 like the people I work with. | 8. Sometimes I feel like my | 3 9. Communication in the organization is good. | 10. Raises are small and rar | 11. Those who do their job | 12. My boss is not fair to m | 13. The benefits we receive | :8 14. I don't feel the work I do is appreciated. | 15. My attempts to do a go | .0 16. I have to work harder at my job because my associates are incompetent. | 17. I love doing jobs at my | |

| .tsiH | | | | | | | - | | • | | | | - | | | | | | |
|----------------|---|--|--|---|---------------------------------------|--|--|--|--|----------------------------------|---|---|----------------------------------|--|---|---|--|---------------------|-----------------------------------|
| Stand. dev. | 0,37 | 0,49 | 0,46 | 0,47 | 0,35 | 0,50 | 0,47 | 0,49 | 0,45 | 0,48 | 0,33 | 0,50 | 0,47 | 0,50 | 0,50 | 92'0 | 0,45 | 0,50 | 0,37 |
| Mean | 0,16 | 0,40 | 0,30 | 0,31 | 0,14 | 0,53 | 89′0 | 0,63 | 0,27 | 99′0 | 0,13 | 0,55 | 29'0 | 0,52 | 0,55 | 0,15 | 0,27 | 0,53 | 0,16 |
| Response | 96'0 | 0,92 | 0,93 | 0,92 | 96'0 | 96'0 | 96'0 | 0,93 | 0,92 | 0,93 | 0,93 | 0,93 | 0,92 | 0,93 | 0,88 | 0,88 | 6,03 | 96'0 | 0,93 |
| noitseuQ | 18. The goals of my organization are not clear to me. | 19. When I think about how much they pay me, I feel that I am not valued enough in the organization. | 20. People are advancing here as fast as in other organizations. | 21. My boss shows too little interest in the feelings of his workers. | 22. The benefits we receive are fair. | 23. Recognitions are rare for those who work here. | 24. I have to work a lot in the workplace. | 25. I am satisfied with my associates. | 26. I often have a feeling that I don't know what's going on in my organization. | 27. I am proud of the work I do. | 28. I am satisfied with my chances for a salary increase. | 29. There are benefits that we do not receive and that we should receive. | 30. I am satisfied with my boss. | 31. My job requires too much administration / paperwork. | 32. I don't feel like my work effort has been rewarded the way it should be | 33. I am satisfied with my chances for advancement. | 34. There are too many shootings and conflicts in the workplace. | 35. l enjoy my job. | 36. Tasks are not well explained. |
| Notation | x32 | x33 | x34 | x35 | x36 | x37 | x38 | x39 | x40 | x41 | x42 | x43 | ×44 | x45 | x46 | x47 | x48 | x49 | x50 |

Source: Authors

Table 3. Organizational cohesiveness - questions, labels and, basic descriptive statistics

| noitatoN | noitseuΩ | Response | Mean | Stand. dev. | Hist. |
|----------|--|----------|------|----------------|-------|
| x51 | 1. Group meetings were held regularly and everyone was present | 0,92 | 0,62 | 0,49 | |
| x52 | 2. We discussed and accepted the same goals for the work of the group | 06'0 | 95'0 | 0,50 | |
| x53 | 3. We spent most of our time in meetings discussing business; discussions were open and active | 0,92 | 69'0 | 0,47 | |
| x54 | 4. We searched every conflict and misunderstanding until we came to a solution | 0,88 | 0,55 | 0,50 | |
| x55 | 5. The group members listened carefully to each other | 06'0 | 0,63 | 0,49 | |
| 95x | 6. We believe in each other, talking personally about what we feel | 0,87 | 0,42 | 0,50 | - |
| x57 | 7. Leadership roles have changed, with people taking the initiative at the right time for the benefit of the group | 06'0 | 0,35 | 0,48 | |
| x58 | 8. Each member of the group found a way to contribute to the ultimate success of the work | 06'0 | 0,52 | 05'0 | |
| 65x | 9. I was very pleased to be a member of the group. | 0,87 | 0,58 | 0,50 | |
| 09x | 10. We were free to acknowledge each other for a job well done | 0,88 | 0,53 | 0,50 | |
| x61 | 11. Group members gave and received feedback for better group work | 06'0 | 0,43 | 0,50 | |
| x62 | 12. We considered each other confidential; each member was a support in the group | 06'0 | 0,46 | 0,50 | |
| x63 | 13. The members of the group really respected and respected each other | 06'0 | 0,54 | 05'0 | |
| | | | | | |

Source: Authors

Table 4. Communication - questions, labels and, basic descriptive statistics

| u | | | | | |
|---|--|-----------------|------|----------------|-------|
| ioitsən Q | | Respons rate | Mean | Stand. dev. | .tsiH |
| 1. Are you satisfied with the availab | the availability of an immediate superior? | 0,95 | 98′0 | 0,35 | |
| 2. Are you satisfied with how familiar | how familiar your supervisor is with the problems you encounter at work? | 0,97 | 69′0 | 0,47 | - |
| 3. Are you satisfied with how much yo | how much your superior understands your problems? | 0,92 | 0,71 | 0,46 | - |
| 4. Are you satisfied with how much yo | how much your superior recognizes your potential? | 0,92 | 0,64 | 0,49 | |
| 5. Are you satisfied with the availability | the availability of colleagues? | 0,92 | 0,78 | 0,42 | - |
| 6. Are you satisfied with how successfi | how successfully you communicate with your team members? | 0,92 | 0,75 | 0,44 | - |
| 7. Are you satisfied with the results of c | the results of communicating with colleagues? | 0,93 | 0,75 | 0,44 | - |
| 8. Are you satisfied with the willingness | the willingness of your colleagues to accept criticism? | 0,92 | 0,49 | 0,50 | |
| 9. Are you satisfied with the number of | the number of decisions made on based on formal communication? | 0,92 | 0,49 | 0,50 | |
| 10. Are you satisfied with the number o | th the number of gossips in the organization? | 0,87 | 0,17 | 0,38 | _ |
| 11. Are you satisfied with the time you sp | th the time you spend in informal communication? | 06'0 | 0,54 | 0,50 | |
| 12. Are you satisfied with the usefulness | 12. Are you satisfied with the usefulness of the information you come across in informal communication? | 06'0 | 0,54 | 0,50 | |
| 13. Are you satisfied with the information on the work regulations? | n on the work regulations? | 06'0 | 9'0 | 0,48 | - |
| 14. Are you satisfied with the information about the results of the work and the success of the organization? | on about the results of the work and the | 06'0 | 0,59 | 0,50 | |
| 15. Are you satisfied with the information | th the information about changes in the organization? | 0,88 | 0,42 | 0,50 | |
| 16. Are you satisfied with the informatithe business of the organization? | 16. Are you satisfied with the information about the legal regulations that affect the business of the organization? | 06'0 | 0,54 | 0,50 | |
| 17. Are you satisfied with the organization | th the organization of the meetings you attend? | 06'0 | 0,57 | 0,50 | |
| 18. Are you satisfied with the benefits | th the benefits of the information you receive at the meetings? | 0,92 | 09'0 | 0,49 | |
| 19. Do you receive information important for doing your job on time? | rtant for doing your job on time? | 0,92 | 9'0 | 0,48 | |
| 20. Are you satisfied with the duration | th the duration of the meeting? | 06'0 | 0,57 | 0,50 | |
| | | | | | |

| noitatoN | noitsəυΩ | Response | Mean | Stand. dev. | .tsiH |
|----------|--|----------|-----------|----------------|-------|
| x84 | 21. Are you satisfied with the information on the consequences of a job poorly done? | 88′0 | 0,47 | 05'0 | |
| x85 | 22. Are you satisfied with the information on how much you contribute to the common success? | 06'0 | 0,50 | 0,50 | |
| 98x | 23. Are you satisfied with the information about how much your work is valued within the organization? | 06'0 | 0,39 0,49 | 0,49 | |
| x87 | 24. Are you satisfied with the feedback on how you are doing your job? | 0,85 | 0,51 0,50 | 0,50 | |
| x88 | 25. Are you satisfied with the communication media? (written notices, intranet, oral communications, etc.) | 06'0 | 0,67 | 0,48 | 7 |
| 68x | 26. Are you satisfied with the possibilities of communication through modern media? | 0,85 | 0,65 | 0,48 | |
| 06x | 27. Are you satisfied with the quality of communication through modern media? | 0,85 | 0,67 | 0,48 | - |
| x91 | 28. Are you satisfied with the way others communicate with you? | 0,88 | 0,68 0,47 | 0,47 | |

Source: Authors



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