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Mr Miliša Todorović, Dr Snežana Živković, Dr Vesna Nikolić, Dr Mirko Markič: DRUNPP Sarajevo TTEM, 2013. prihvaćen rad, postoji obavjest o tome.

## THE INFLUENCE OF ORGANIZATIONAL CULTURE OF MANAGEMENT ON OCCUPATIONAL SAFETY,

### SUMMARY

In the period of great and high speeds each organization faces with numerous challenges. Organizational culture is more and more considered as an important factor which links all elements of one organization into one clear whole. Occupational safety is one of the important elements of each organization, first of all starting with care for people's health, as well as the costs of injuries at work, which are very high.

In this work the elements of the empiric research of organizational culture have been shown with the aim to consider the influences of management attitudes on organizational culture and its influence on occupational safety. The sample consisted of 801 examinees from 69 companies, 11 industries. We used a quantity research method, a questionnaire. For data and information analysis we used the softer program SPSS, as well as appropriate descriptive statistic methods, a factor analysis, a linear regressive analysis. We determined that the effects such as workplace, number of employees in an organization and the level of education on the attitude towards occupational safety are accomplished indirectly through the top management and their way of managing. The work also consists of the comparative analysis and researches on the problem of the Influence of organizational culture on safety and health system at work in business organizations in Slovenia and companies in Serbia.

The contribution of this work is both theoretical and practical. Theoretical contribution is based on collecting information and gaining new knowledge referring to the relation between the top management and safety and health at work and managing security. The practical characteristic of this work is that it can be useful for those ones who create policies on safety and health at work in the country (in profession, legislation and with employers) as well as for the top management and their everyday work.

The structure of the research enabled us to make a comparison with another similar research, of other cultural environments and in the world. It means that with its assistance we can module additional part of mosaic, which enables us to understand the behavior of the leading managers in the global competition, connected with managing security and health of employees.

**Key words:** *organizational culture, occupational safety, a manager and occupational safety*

### INTRODUCTION

Each historical society is based on certain cultural heritage as well as heritage originating during the development of the society itself. In the time of open markets and free access to the greatest part of information, organizations more and more face with the need to cut their costs in order to increase their profits. The word organization itself means conscious organizing the people with the aim to fulfill all the aims using all available resources, material and non- material. The aim of organizational behavior is to create certain knowledge of management since people behave in certain way in a specific situation and to set up necessary actions for changing such behavior and directing it towards achieving aims of organization. (Živković, Todorović and Nikolić, 2011) This is why more and more theorists and practitioners research the organization itself and organizational culture. (Robbins and Stephen, 2001; Schein, 1992; Handy, 1979; Morgan, 1979) Organizational culture is not a static category. (Todorović and Živković, 2010) The event that drew attention to the phenomenon of organizational culture is undoubtedly success of Japanese companies in the world market. (Ivanova and Prihodko, 2008) When theorists and practitioners tried to determine the factors enabling an intensive growth of Japanese economy in the second half of the 20th century, two groups of factors appeared. (Janićijević, 1997) The first one refers to the uncompromising attitude in terms of products quality and the second one presents a specific relation between the managers and employees.

It is more obvious that without adjusting the culture of the certain group and activities, which have to be done in an organization, there is no long-term economic stability and profitability. (Baram and Schoebel, 2007) There are numerous definitions of organizational culture. Organizational culture is considered as a dominant form and common belief or values of the employees. (Tavčar, 2002) Organizational culture is defined as a system of

assumptions, beliefs, values and norms of behavior, developed and adopted through common experience by the members of one organization, which are manifested through symbols and which direct their opinion and behavior. (Cvijanović, 1997) Organizational culture consists of its members, their customs, forms of behavior and their attitude towards work and organization itself. (Bennet, 1994) Organizational culture comprises the sum of ideas, concepts, customs, traditions, procedures and habits for acting in special macro culture. (Harris and Morgan, 1981) Organizational culture is connected with all sub unities which form an organization. Organizational culture is created gradually and often remain in force longer period of time even if its creators are often no longer members of the organization. (Živković, Todorović and Markič, 2011) Every company has its own specific organizational culture. (Nikolić, Jovanović, Lalić, Dabić-Stanković, Sapić and Huseinović, 2011) Basic characteristics of organizational culture are that it is acquired by the flow of time, it is divided among all members of an organization, it is passed from one generation to another and it is based on human ability to adjust easily to the internal environment where they work.

Strategic decisions of an organization direct its business activity in the longer period of time. A strategic decision demands asking two basic questions: where and how? The answer to the question where, should be given by the vision of an organization, while the answer to the question how is given by the strategy of work and development of an organization. Who creates a vision? A vision is mostly given by the managers who take the responsibility of presenting that vision and its implementation in everyday work. Whether it is about industry in which a certain business activity is to be done, whether it is about setting the goals or the strategies that have to be applied, each management, who is usually the initiator of certain changes, has to clearly consider the values which the organization has at the moment. A good idea, good material resources, not rarely lead to the failure of the organization due to the lack of some other values, where human resource has to be particularly emphasized as an important element and resource of any organization. Organizational culture is an increasingly important field of management today. (Nikolić, Bešić, Sajfert, Savić and Čočkaló, 2009) Organizational culture is the force which is necessary to create awareness with work force at certain time about the necessity of the system of values and respecting certain behavior standards. Safe working environment arouses as a consequence of a change in behavior and an acquisition of certain rules and standards as well as their constant application in everyday work.

When choosing foreign literature we singled out a couple of researches. The report *Wellness in the workplace: Aligning intentions and outcomes 2006*, made in Canada, shows that 90,3 % of processed organizations offer extensive programs, related to the health of the employees. According to the eminent author (Buffett, 2000): healthy employees present the resource (27,3 %), a wish to promote a healthy way of life (25,6 %), and a wish to have fewer leaves (14,3 %), and cutting costs down (10,1 %). The research done by the Association for Worksite Health promotion in 2000, showed that only in 4 % of the companies the top management considers health promotion to be one of priorities, in 35 % it is on the top of the list of priorities, in 33 % it is in the middle, in 16 % it is on the list of priorities, and in 12 % there is no health of employees on the list of priorities. (De Greef and van den Broek, 2004)

In many studies (e.g. Coyle, Sleeman and Adams, 1995; Diaz and Cabrera, 1997; Felknor, 1997; Krispin, 1997) it is clear that the higher the marks of safety culture are, the better its implementation is, and so are the results related to the safety and health guarantee. In general, safety culture is thought to influence employees' attitudes and behavior in relation to an organization's ongoing health and safety performance. (Choudhry, Fang and Mohamed, 2007) Implementation of stronger safety cultures should result in fewer accidents. (Arboleda, Morrow, Crum and Shelley, 2003)

Studies on the influence of organizational culture on the system of safety and health at work in Serbia are still being developed, which is a challenge for further work of authors. Searching the available literature, the authors determined that there weren't more important researches dealing with these problems. What is particularly interesting, there are not significant researches of the organizational culture apart from certain specialist works dealing with organizational culture of some organizations, the influence of national culture on the organizational culture as well as the influence of organizational culture on quality. It is important to mention the research on organizational culture done in 2010 by Human synergistic Serbia from Belgrade. The results of this research haven't been available to the general public yet. Connecting the role and importance of organizational culture with creating safety working conditions is a very interesting topic for many reasons. (Todorović and Živković, 2010) The first, and maybe the most important reason, lies in the fact that the costs of the injuries at work are very high and that their effects reflect on business of organizations in a very simple way. The problem is in the fact that a great number of employers are not aware of the amount of the costs of injuries at work. Second, not a less important

reason starts with humane aspects that human life is the greatest treasure and this is why it should be looked after. Many researches connect the notion of safety culture, culture of occupational safety, with Chernobyl disaster, when explosion in the nuclear plant happened. Consequences of that disaster haven't been completely determined yet. In 1986 International Atomic Energy Agency identified bad safety culture in the plant and the whole Russian society as a cause of the incident. (Markič, Živković and Todorović, 2011) Several accidents after that, Piper Alpha, Ladbroke Grove, Kings Cross, even the last accident in the nuclear plant in Japan, partly indicate that bad safety culture has been a cause of the incident. Managers shouldn't ignore organizational culture; on the contrary they should have influence on its creation. Their values influence the direction of the organization. (Wehrich and Koontz, 1994) For the model Safety excellence it is important to claim that **safety excellence is = CEOu**, where the abbreviations mean: C - culture, E - elements of safety, O - organization and u - you. (Hansen, 2000)

### THE PURPOSE OF THE RESEARCH

Starting with the fact that normative establishment in the field of occupational safety in the Republic of Serbia as well as in most countries of our region is mostly completed we cannot but notice that there isn't, however, a clear trend of reducing the number and seriousness of injuries at work. Development of technique and technology has reached a certain level which in most cases respects safety standards. It is obvious that a problem is manifested in the way we conceive and understand organizational standards within each organization of work. The system of assumptions, values and norms which majority of workers follow, consciously or unconsciously, do not match with the needs of a modern organization. If members of one organization start with the wrong system of values, the greatest responsibility is on the management of organization.

The aim of the research on culture safety, done in 2010 in the Republic of Serbia, was to determine the attitude of the managers towards occupational safety. One part of that research will be shown in this paper.

### THE AIM OF THE RESEARCH

The aim of the research is to determine the attitude of the top management towards occupational safety and their willingness for promotion and changes which will lead to creating a safer working environment. The starting hypothesis is that the attitude of workplace, the level of education and the number of employees towards occupational safety is achieved indirectly through the factor which determines the way of managing.

### THE SAMPLE AND WORK METHODS

The sample consisted of 801 examinees from 69 companies, 11 industries. The questionnaire consisted of the following tests: attitude towards occupational safety, vision, credibility, cooperation, feedback and acknowledgement, responsibility, communication and orientation towards the action. The appropriate descriptive statistic methods were used for processing the results such as a factor analysis, and a linear regression analysis.

### RESULTS AND DISCUSSION

The results of the research will be shown below.

**Table 1.** *The number of participants according to the workplace*

Is the participant of the research a manager	The number of examinees	Total number percentage
Executor	641	80,0
Manager	159	19,9
Not responded	1	0,1
Total:	801	100,0

In order to achieve consistence with referent researches, the examinees' responses on the three-stage scales are recoded so that answer is Never marked with 1, Sometimes with 4, and Always with 7. Data for examinees'

responses, referring to the attitude towards occupational safety, are presented in the following table. Data related to the values of organizational cultures examined in the research (vision, credibility, cooperation, feedback and acknowledgement, communication and orientation towards the action) will be shown in comparative overviews.

**Table 2.** *The average of examinees' responses concerning the claims related to the attitude towards occupational safety*

Claim	AS	SD
I understand legal requirements as	2,54	1,92
Investments are	4,12	2,27
Occupational safety is	5,03	1,77
Education in occupational safety is	3,87	2,70

Concerning the fact that the purpose of the shown claims is to mark certain aspects of organizational culture, i.e. to mark the relation towards occupational safety, it was tested whether they fulfill the requirements of the latent model, i.e. whether they really are the marks of a certain latent characteristic. If these were adequate marks, then in the procedure of factor analysis in each group of claims a special factor should be shown as the most adequate. In the following tables, the results of the factor analysis are shown. Factor saturations of each claim in the group as well as factors which fulfill Guttman-Keizer criteria, as well as their values, are shown.

**Table 3.** *The number of factors and factor saturation gained in the procedure of factor analysis of the claims from the group of indicators of the attitude towards occupational safety*

ATTITUDE TOWARDS OCCUPATIONAL SAFETY	
The number of factors fulfilling Guttman-Keizer criteria	1
Characteristic value of the first factor	2,178 (54,453 %)
Claim	Factor saturation
I understand legal requests as	-0,191
Investments are	0,846
Occupational safety is	0,822
Education in occupational safety is	0,867

In the table above it can be seen that the first point hasn't proved to be a good indicator of the attitude towards occupational safety, i.e. contrary to the expectations based on its formulation, its correlation with the extracted factor is low and negative. Other points have high correlations with the extracted factor, which means that remaining three points present good indicators of the same latent factor, which could be analyzed as attitude towards occupational safety. And other tested values of organizational culture (vision, credibility, cooperation, feedback and acknowledgement, responsibility, communication and orientation towards the action) showed that they are good indicators of the same latent factor which could be analyzed as a latent attitude towards occupational safety.

These results show that it is justified to combine the examinees' responses concerning certain claims so that we can get measures of prominence of relevant aspects of organizational culture with the examinees. That was done by calculating the average values of examinees' responses to the points which are the indicators of the relevant aspect of organizational culture.

The average examinees' results from the sample on such obtained measures are shown in the following table.

**Table 4.** *The average values of the measures of the aspects of organizational culture and attitude towards occupational safety*

Measure	AS	SD
Attitude towards occupational safety	4,34	1,92
Vision	4,92	1,57
Credibility	5,43	1,26
Cooperation	4,84	1,45

Feedback and acknowledgement	5,23	1,51
Responsibility	5,01	1,63
Communications	5,23	1,52
Orientation towards the action	4,74	1,66

After calculating descriptive statistic measures, as well as forming composite scores of Attitude towards occupational safety and aspects of organizational culture, the connections between the Attitude towards occupational safety and other tested characteristics, as well as between the mutual aspects of organizational culture were tested.

Mutual connections between the aspects of organizational culture with factor analysis were first tested.

**Table 5.** *Correlation between the mutual aspects of organizational culture*

Correlation	Vision	Credibility	Cooperation	Feedback and acknowledgement	Responsibility	Communications	Orientation towards the action
Vision	1,00	-	-	-	-	-	-
Credibility	0,69	1,00	-	-	-	-	-
Cooperation	0,77	0,72	1,00	-	-	-	-
Feedback and acknowledgement	0,72	0,77	0,80	1,00	-	-	-
Responsibility	0,72	0,63	0,76	0,72	1,00	-	-
Communications	0,74	0,73	0,80	0,76	0,74	1,00	-
Orientation towards the action	0,74	0,69	0,77	0,76	0,75	0,81	1,00

Statistically all coefficients of correlation higher than 0,07 are important at least at the level 0,05

According to the determined data it is seen that correlations between the aspects of organizational culture are rather high i.e. they are from 0,63 to 0,81, which may indicate that in their basis there is one common factor. This is why we made an explorative factor analysis by the procedure of analyzing the main components at these measures. The results are shown in the following table.

**Table 6.** *Characteristic values of factors and factor saturations of the aspects of organizational culture*

ASPECTS OF ORGANIZATIONAL CULTURE	
The number of factors satisfying Guttman-Keizer criteria	1
Characteristic value of the first factor	5,455 (77,931 %)
Claim	Factor saturation
Vision	0,87
Credibility	0,84
Cooperation	0,91
Feedback and acknowledgement	0,90
Responsibility	0,86
Communications	0,90
Orientation towards the action	0,89

If we compare these results with the results of the research done in the Republic of Slovenia (Kolenc, 2009), according to the identical questionnaire, we see that the obtained factor structurally matches the factor with high saturations at all aspects of organizational culture. In comparison with that research, the factor extracted in this sample explains the higher percentage of the variance of the aspects of organizational culture (near 78 %, in comparison with 58 % obtained there), i.e. consequently, the higher saturation of all aspects of organizational culture. Taker's coefficient of congruence between the structure of this factor in this research and the structure of the same factor in the mentioned referent research is 0,998, which definitely indicated that there are quite equivalent factors.

In the next step the connection of the aspects of organizational culture, as well as other examined variables with the attitude towards occupational safety, was tested. The correlation of the aspects of organizational culture, the level of education, years of service, type of workplace, years and the sex with the attitude towards occupational safety showed that the attitude towards occupational safety is in the positive and middle correlation with all aspects of organizational culture, and first of all with the general factor the Way of managing. This may indicate that the factors responsible for favorable attitude towards occupational safety are the same as the ones responsible for adopting and applying positive attitude related to managing (higher scores on the factor of way of managing).

Concerning a great number of obtained correlations, in the next step there was an attempt to analyze better the relations of different shown variables and the Attitude towards occupational safety. For this purpose there was a procedure of hierarchic linear regression analysis, in which a subordinate variable was the Attitude towards occupational safety (total score), and the predictors were the first added aspects of organizational culture, then the factor the Way of managing (general factor), then the Number of employees in the company, then the Sex and at the end Type of workplace and Level of education.

**Table 7.** Predicting values at Attitude towards occupational safety according to other variables by the procedure of hierarchic linear regression analysis, indicators of predictive power of the model

Step	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Statistic importance
1	0,505	0,255	0,245	<0,001
2	0,505	0,255	0,243	<0,001
3	0,509	0,260	0,246	<0,001
4	0,510	0,260	0,245	<0,001
5	0,511	0,261	0,245	<0,001

Criteria - Attitude towards occupational safety

(composite score obtained from 2, 3 and 4 questions referring to this topic)

From the results shown it is seen that all predictors, involved in the model, together explain 26,1 % of variance of the Attitude towards occupational safety. On the other hand, when only the aspects of organizational culture are involved in the model, the percentage of the explained variance is only slightly lower - 25,2 %. However, if we analyze the assessment of the explained variance corrected for the number of predictor (adjusted R<sup>2</sup>), we can see that it is the same and it is about 24,5 % for all tested models. This indicates that newly involved predictors really don't explain new substantive parts of variance of the criteria (Attitude towards occupational safety), but the difference is considered as a consequence of the statistic mistake. This potentially indicates that, although the connection among characteristics such as the sex, type of workplace, the level of education and the number of employees in the company with the Attitude towards occupational safety is statistically important, when analyzed isolated, it is probably not direct, but it is possible that it is achieved indirectly over the aspects of organizational culture. This assumption is tested with Sobel's test of mediation, as well as with boost raping procedure, suggested by Preacher and Heys (2008).

After examining the effect of mediation in terms of Type of workplace, the Level of education, the Number of employees and the Sex in comparison with the Way of managing and Attitude towards occupational safety we see that they are in favor of the previously stated assumption that effects of Type of workplace, the Number of employees in the company and the Level of education on Attitude towards occupational safety are not achieved directly but through the factor Way of managing. All tests of mediation in which the factor Way of managing is placed as a mediator of the effects of these variables on the Attitude towards occupational safety are statistically important. Neither of the tests of reverse models, in which the factor Way of managing is placed as an independent variable, was statistically important. Also, tests of direct effects none of these three variables on the

Attitude towards occupational safety are statistically important (data not shown in the tables), which indicates that their total effect on the Attitude towards occupational safety goes through the factor Way of managing.

### CONCLUSION

By analyzing the obtained results it is clear that the starting hypothesis is confirmed since the statistic analysis of the obtained data showed that the attitude of Type of workplace, the Level of education and the Number of employees towards occupational safety is achieved indirectly over the factor Way of managing. According to that, we can say that the top management of each organization faces with a great challenge. Adjusting individual attitudes and values with proclaimed values, defined by management, is hard and time consuming work. Methods and techniques of motivation of the employees for applying the defined standards play an important role in that process. (Živković, 2008) The role of human resource in each production process is very important and this is why managers have a great responsibility for that resource to put it in the function of the optimal work process. (Živković and Rakić, 2009) It would be interesting to research the way in which we should motivate managers to face with a fact that only healthy and satisfied employees mean a good and long-term positive business result. Declaratively, a man is our greatest treasure. In practice managers often start with economic indicators. The problem arises in their wrong interpretations of economic effects expenses-investments in the sphere of occupational safety. If the management of an organization does not have a clear strategy in attitude towards occupational safety, it cannot be expected that the employees have a clear system of values which they follow in everyday work in the field of occupational safety. (Živković, 2011)

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