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EMOTIONAL INTELLIGENCE AS A FACTOR OF MAKING MANAGEMENT EFFICIENCY DECISIONS

У статті аналізується емоційний інтелект як чинник ефективності прийняття управлінських рішень і як надійний предиктор успішності організаційних змін. Отримані результати дозволяють зробити висновок про те, що керівники-менеджери середньої ланки, яким притаманний розвинений емоційний інтелект, характеризуються прийняттям ефективних управлінських рішень у співвідношенні з продуктивними копінговими стратегіями. Дослідження відкриває новий підхід в оцінці організаційних змін з урахуванням об'єктивних і суб'єктивних показників – ефективність прийняття рішень, продуктивність копінгових стратегій відповідно.

Ключові слова: емоційний інтелект, ефективність, керівники-менеджери середньої ланки, копінгові стратегії, організаційні зміни, управлінські рішення, регресійний аналіз.

В статье анализируются эмоциональный интеллект как фактор эффективности принятия управленческих решений и как надежный предиктор успешности организационных изменений. Полученные результаты позволяют сделать вывод о том, что руководители-менеджеры среднего звена с высокими показателями эмоционального интеллекта характеризуются принятием эффективных управленческих решений с опорой на продуктивные копинг-стратегии. Исследование открывает новый подход к оценки организационных изменений с учетом объективных и субъективных показателей - эффективность принятия решений, продуктивность копинговых стратегий соответственно.

Ключевые слова: копинговые стратегии, организационные изменения, регрессионный анализ, руководители-менеджеры среднего звена, управленческие решения, эмоциональный интеллект, эффективность.

The problem of leadership's emotional intelligence (EI), efficiency management making decision (EMMD) and productive coping-strategies' factors in the framework of a "bounded rationality" model by H.A. Simon, has been researched in this paper. The purpose of study is to determine the efficiency of decision-making by middle-level management stuff with EI and productive coping-strategies (direct /indirect effects on profit). A construct of EMMD was developed. The sample contained 32 managers (N = 32; Mage=39,57±11,14; 15 males; 17 females) in the business private structures / departments of state administration. The EI-scales are : N. Hall; Mayer at al.; D.V. Lyusin; 16 PF; also PWB; "Coping in SS"(Cattell, C. Ryff, P.Norman at al.). Results of plural regressive analysis for the final model of efficiency of making management decision proved: benevolent (R=0,884; Rsquare=0,782; F=59,274; p=0,0001; beta: $\beta_1 = 0,559$ (t=4,231), $\beta_2 = 0,374$ (t=2,828) accordingly. Analysis r-Pearson correlations of components of EI and coping strategies is scored higher too (p < 0,05; p < 0,01; p < 0,001). The research findings open up new prospects for assessing the success of organizational changes through direct /indirect effects.

Key words: *emotional intelligence, efficiency management decision-making, coping-behavioral strategies, middle level's managers, organizational changes, regression analysis.*

Problem identification.

PIn recent decades there appeared new psychological concepts in development of the organization and successful leadership summarizing the results obtained in the field of decision-making management. The effects of these decision-making findings have been crucial in the analysis of successful organizational performance, especially as to social psychological phenomena of managers, whose emotional and social abilities, leader's personal characteristics and skills are proclaimed as its central components. Besides even the most conservative organizations are subjected to constant changes today, which often can have negative consequences. That's why those conceptualization gain special weight, which emphasize the study of various real orga-

nizations in situations of organizational changes determined mainly organizational and economic factors. So currently there has been a growing interest in the effective factors of coping-behavioral strategies'. Intensification of managerial activity in situations of organizational changes provokes job stress and destructive coping-behaviour among all managers and ones of medium stage in organizational hierarchy, in particularly.

It should also be mentioned that the problem of the leadership field recently has been expended by rethinking the general psychological approaches to psychological understanding of human *ratio de facto* in terms of the problems of emotional intelligence (EI), which is relevant not only to contemporary psychologists' agenda but also to Aristotel's study conducted 2000 years ago for the under-

standing of the management leadership' mechanisms in organizations.

Thus, it becomes perspective to consider the social psychological phenomena such as effects of EI on making management decisions (MMD) by managers as external objective criteria of organizational success in its profit and their productive coping-strategies as internal subjective criteria of success, that provide positive tendency for organizational changes.

The objective of the present study.

The purpose of this study is to determine the efficiency of decision-making by middle-level management stuff with EI and productive coping-strategies (direct / indirect effects on profit) as leader's personal characteristics in the successful organizational performance in situations of organizational changes.

Our research *task* was to follow the success in situations of organizational changes on its objective and subjective indicators. It means that managers with EI and managers without EI had to make (effective / ineffective) decisions in case of difficulties in the employees' professional activities under new tax implementation computer programs for the optimization of reporting process and taxation. Thus, the success in situations of organizational changes was studied through direct effects as scored higher in profit - efficiency of management making decision (EMMD) by middle-level managers and indirect effects - productive / inproductive stress-coping behavioral strategies of managers with EI and without EI.

Review of recent publications.

Western studies, carried out by Law et al. (2004) [11], demonstrated the relationship between the EI and higher scores in successful innovative tasks implementation and also in higher efficiency in making management decisions by managers.

In addition, the Ukrainian and Russian researchers have proved relationship between EI and effective procedural management characteristics as to inter-group coordination in the successful organizational performance (V.Y.Bochelyuk, L.M. Karamushka, S.H. Kozlovska, O.V. Chumachenko et al.) [4; 6; 8], correlations of the effectiveness of management leadership activities with leadership's stylistic preferences of managers (A.S.Petrovska). So it appeared that EI minimizes the likelihood of choice liberal or indifferent styles as the least efficient, providing the choice of optimal managerial style [in 2].

In USA counter diction IQ vs EQ (emotional quality vs intellectual quality) is popular now: "IQ gets you hired but EQ gets you promoted". According to several studies [6; 8; 10; 11; 12] the part of IQ in the business success is only 20% and EQ - all 80%. Some authors even claim that particularly in business ratio of emotional intelligence has more significant prognostic perspectives than the IQ-ratio. On the grounded theory's analysis of EI by P. Salovey and J. Mayer [in 1], who the first ones has interpreted EI as the ability to process the information contained with emotions, EI is to determine the value of emotions, their links with one another, to use emotional information as a basis for thinking and decision-making. The components of this phenomenon can be called positive factors in mild interpersonal interaction. Several theoretical and empirical studies associate high level of EI with greater job satisfaction, with the ability to build productive relationships with the team in organizations and the ability to form a favorable working climate (T.Y. Bazarov, L.M. Karamushka, Yu.O. Koloshyna, H.I. Padurets, I.B.Chudayeva, A.V. Zhuravlev et al.) [2; 4; 8; 9; 13; 14].

Other data confirmed the relationship between the high index of EI leaders of

organizations and management' effectiveness (I.O. Yehorov) [in 6]. No wonder a number of techniques and methods EMMD require from personality certain traits and skills: the ability to settle conflicts and the ability inter-group cooperation.

Also relationship between EI managers with interpersonal sensitivity, willingness to change and productive styles for harmonizing conflict, employee satisfaction and staff communication with them, with devotion to career and more was found [12]. In terms of indeterminacy in situations of organizational changes, emotional stability, social responsiveness, help in self-improvement and many other personality components, combined in one factor may be prominent for MMD and especially - EMMD.

Such data are based on certain theoretical models that require proper empirical verification. There are several models in the field of conceptualization of managerial decision-making, which anew interpret human rationality since MMD as social psychological phenomena is happening when there is the lack of information regarding the situation, of all possible alternatives to solve it and the inability to foresee the consequences of possible alternatives. In particular, it is a model of "bounded rationality" or "behavioral" model by H.A. Simon, according to which in complicated situations of decision-making leader operates within the "bounded rationality". Also another model, in particularly cluster one, that simulates processes of making decisions in situation of uncertainty (L.Lipshyts, R.Strauss) are interpret efficiency of decision-making of managers.

We can assume that in situations of organizational changes, EI is one of the decisive factors of making management decisions by managers. The same can

be seen in a situation of uncertainty - effective solutions are aimed at reducing the risk of uncertainty, which are important emotional informed decisions.

Thus, the working hypothesis we put forward found confirmation in the specialized theoretical literature. This gives us grounds to look for empirical evidence of dependence of the efficiency of decision-making from the EI manager and productive coping strategies by managers that provide positive tendency for organizational changes.

Method and Tools.

Measuring procedure included: J. Guilford's test on social intelligence (SI), which includes 4 subtest ("history of ending", "group of expressions", "verbal expression", "history of addition") (adaptation by E. Mykhaylova) [5]; N.°Hall's scale on EI that includes 5 subscale ("emotional awareness", "emotion's control", "self-motivation", "empathy", "recognition of others' emotions"); MS-SEIT V2.0 (Mayer at al., 2002) [7], which presented EI as an intelligent capacity; questionnaire Emotional Intelligence or "EmIn" by D.V.°Lyusin; 16°PF Cattell; scale of psychological Weil-Being (PSW) by C.°Ryff (adaptation by I.°Znanetska) [13]; scale "coping behavior in stress situations" by P.Norman, D.F. Endler, D.A. James, M.I.Parker (adaptation by T. Krukova).

A standard multiple regression was performed between three parameters EI (inter-, intrapersonality components of EI from "EmIn" by D.V. Lyusin, emotional competency - EC from N.°Hall's scale) as the independent variables and making management decisions as dependent variables. Statistical pack IBM SPSS Statistics 20.0. is used, analysis r-Pearson correlations, in particularly and others too.

Sampling strategy and Resulting Sample.

The sample of middle level managers

in the business private structures and in the some departments of state administration, heads of various professions by training, whose functions included conducting innovative change, making management decisions, demonstration of new tax programs and of renew computer programs was formed.

As to the innovative changes at first it concerned indicators of individual enterprises (new blanks for the optimization of reporting process), then – forms of taxation (for optimization of the process of accounting quantity and value of the “received” income), finely – forms of renew computer programs for the optimization of reporting process and taxation.

The sample contained 32 managers (N = 32; Mage=39,57±11,14; 15 males; 17 females). To ensure homogeneity of the sample such stratification variables as gender, age, education were taken into consideration. Gender divides study participants almost equally – 15 men, 17 women among managers. According to the age the participants can be divided into three groups: 23 to 30 years (10 adults) from 31 to 40 (12 adults), from 45 to 57 (10 adults).

For analytic purposes, we divided respondents into three age groups: (young, 23–29, n = 13 midlife, 31–44, n = 12, older adults 45–57, n°=°7) and one image group, that’s all 4 groups – 3 age groups of experimental and 1 image group of control. Thus, for the study the strategy a quasi-experimental design for non-equivalent groups was constructed.

Procedure.

During the research the following strategy was defined. It has three stages: 1) diagnostic, 2) conducting impact in situations of organizational changes as MMD and EMMD; 3) post-diagnostic. The choice of methodological research tools was made: to examine the construct EMMD.

Findings and Conclusion.

As a result of the research we have received a data set that consisted of three scales of stratification variables (education, gender, three age groups, one image group), eight scales of questionnaires and expert evaluation data. The received results were generalized due to a number of procedures of mathematical analysis. Indexes criterion of normality by Kolmogorova-Smyrnova showed that these data correspond to the normal distribution.

A standard multiple regression was performed between parametrs of EI in all scales as the independent variables of manager’s leadership and MMD as dependent variables. For the final model of efficiency of making management decision (EMMD) are defined benevolent three parametrs of EI (1, 2 parametrs EI – °intra°, interpersonality components of EI as “EmIn” by D.V. Lyusin and °3° parametrs of EI – as emotional competency in management personal communications – ECM by N.°Hall’s scale) .

Correlation analysis of scales of emotional intelligence has allowed us to note the presence of a strong positive relationship between different scales of emotional intelligence. These coefficients indicate the validity and the reliability of the results. The only indicator that fell from the overall picture of inter-correlation – scale MSSEIT V2.0, and later – indicators of SI by J. Guilford’s test on social intelligence. This is probably connected to the unreliability of the managers’ responses and due to changes in the situation and possible personnel changes conducted during the study.

Correlation analysis of indexes of the scales that determine the MMD was decided to hold to prove the connection between scales. The level of statistical significance has confirmed a strong positive relationship between all variables. This

suggests that the chosen scales actually have a common aspect. Theoretically, we can talk about statistical descriptors of effectiveness MMD and then EMMD. These is how output of the new construct of EMMD appeared.

In practice, this construct was introduced by transformation of the following scales:

- independence from / dependence on the group, self-control / indifference (factor Q2, factor Q3 16 PF by Cattell);
- environmental mastery' subscale of Scales of PSW by C. Ryff;
- personality' set to the risk by PSK of Schubert;
- test on EI by N. Hall;
- questionnaire Emotional Intelligence or "EmIn" by D.V. Lyusin;
- scale MSSEIT V2.0 MSSEIT V2.0 by Mayer at al.;
- test on Social intelligence by J.°Guilford;
- scale "coping-stress behaviore in stress situations" by P.Norman, D.F. Endler, D.A. James, M.I.Parker (adaptation by T. Krukova).
- expert of evaluation – average index of efficiency scored higher in profit, which is made by an independent expert.

Transformation took place with

summation of indicators for these scales. As a result, we received non-standardized scale of EMMD. Thus, from measurement of MMD (tabl. 1) a construct of EMMD was developed. The psychological well-being scores (C.°Ryff) and productive coping-strategies in a construct of EMMD we can consider as the achievement's satisfaction managers by °H.A.°Simon.

The next step was the correlational analysis of the indexes indicators of the scales of EI. The results of this analysis are directly related to the confirmation of the hypothesis we put forward at the beginning of our research, claiming that the EI positively effects the processes of EMMD, which also is significantly associated with the position of reference of managers who make decisions. Obtained indexes had to demonstrate a direct positive relationship between the data of transformed scale of EMMD and scales of emotional intelligence and position of reference.

Results of plural regressive analysis for the final model of efficiency of making management decision (EMMD) proved that coefficient of plural correlation (R=0,884) is statistically reliable, which is why the model of multiple regression can be interpreted. R square = 0,782 (coefficient of determination) is scored lower but high too. Thus, a regressive

Table 1.
Coefficients of the correlation between emotional intelligence indicators of managers and MMD

		MMD	MSCEIT V2.0	SI	EmIn	EmPlnt
EMMD	Pearson correlation	1	0,360(*)	0,634(**)	0,854(**)	0,815(**)
	Sig. (2-tailed)		0,031	0,000	0,000	0,000
	n=	32	32	32	32	32

Remark. *p< 0,05; **p< 0,001

Table 2.
The value of coefficients of multiple correlation and multiple determination for the obtained model

Model	R	R-squared	Corrected R-squared	Standard error of estimate
	0,884	0,782	0,769	13,05840

Remark. Predictor – EI
 dependent variable – EMMD

model explains more than 78 % dispersions of dependency variable of EMMD.

According to F-Fischer’s criterion and its level of significance for received models of multiple regression analysis we have respectively: model MMD $F = 59,274$, at $p = <0,0001$, i.e., EMMD benevolent ($F=59,274$, $p=0,0001$). Standardized coefficients β : $\beta_1 = 0,559$ (t -criterion =4,231), $\beta_2 = 0,374$ (t -criterion=2,828) accordingly. So we can say that there are huge interrelations between an emotional intelligence and construct of EMMD. We estimated the parameters and fit of the measurement construct of EMMD with standard error of estimate as measurement error. It’s = 13,05840 that fit data well.

Consequently, results of multiple regression analyses defined benevolent ($\beta = 0,559$), so EI as independent variable and its main components (intra-, interpersonality) of managers of medium stage in organizational hierarchy predicts EMMD; another independent variable also contributed significantly to prediction of EMMD ($\beta = 0,374$), in particularly, emotional intelligence as scored by Hall’s components EI (emotional awareness, emotion’s control, self-motivation, empathy, recognition of others’ emotions ($\beta = 0,207$ up to 0,286).

Management decision-making is influenced by many different factors. The findings of these research is demonstrated

that the higher scores of managers’ components of EI than higher index of EMMD (specifically, positive relations, job performance, conflict management and personal characteristics). They also are demonstrated in job stress’ management as positive correlations with the productive copings - planning of decision, and as negative correlations with - avoidance, confront coping.

Analysis r-Pearson correlations of components of EI and coping-stress behavioral strategies for managers in stress situations which determined mainly organizational factors in situations of organizational changes, for N.Hall’s scale and scale coping-stress strategy by P.Norman at al as the same: self-motivation vs confront coping (CC) = - 0,4836 (**); empathy vs CC = -0,3708 (*); emotional awareness vs selfregulation = 0,7297(***); recognition of emotions’ others vs avoidance = -0,4175(**); emotional awareness vs planning of decision = 0,854 (**); self-motivation vs positive overvalue = 0,6081(***); environmental mastery vs positive overvalue = 0,8060(***) (* - at $p <0,05$; ** - at $p <0,01$; *** - at $p <0,001$).

The 4 groups - 3 experimental age with EI and 1 control inage managers’ groups without EI were compared according to the F-Fischer’s criterion against characteristics measured 16 PF by Cattell, “PSK” by Schubert and Scales of psychological well-being by C. Ryff too. Scores in environmental mastery

by C.Ryff, $F = (0,05) = 30$, experimental / control managers' groups; score in PSK $F=(0, 01) = 59$, but only from young adulthood to midlife and older age managers' experimental groups; self-control - impulsiveness $F= (0, 01) = 19$ and negative ones - emotional stability - instability $F= (0, 01) = 17$ profiles for 16 PF by Cattell.

Conclusions. The research results allow to draw a conclusion that in the conditions of organizational changes the emotionally gifted leaders are characterized by high indexes of emotional intelligence and the efficiency in making management decisions as effective leader activity, and as to the changes, which have been carried out under their guidance, they are characterized by the following: rationalization of personality potential inclusion, dynamic quality of including in the phase of changes and

exit from it.

Obtained findings enable to propose methodological tools to determine the effectiveness of decision-making by middle-level management staff, including leader's personal characteristics and skills in the successful organizational performance before starts the situations of organizational changes.

Thus, the success in situations of organizational changes was predicted through direct effects as scored higher in profit - effectiveness management decision-making by middle-level managers and indirect effects - coping stress behavioral strategies of managers with EI.

Emotional intelligence turned out to be the most significant factor that influences making effective management decisions by managers.

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