

Psychological Predictors of Managerial Performance in the Conditions of Instability of the Russian Economy

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ABSTRACT

The objective of the research was to discuss the psychological predictors of managers' economic efficiency under 2014-2015 instability of the Russian economy (a case study of the Big Five personality traits, organization and communicative skills). The research engaged 310 managers (directors of clothing and accessories shops) working at the companies for a year or more. For diagnosing the personality factors, NEO FFI Five-factor questionnaire was used as adapted by M.V. Bodunov and S.D. Biryukov while COS questionnaire of V.V. Sinyavsky and B.A. Fedorishin was applied for revealing the communicative and organizational inclinations. In order to determine the managers' professional efficiency, the performances against sales plans of shops led by them in 2014-2015 were used. Regression analysis results confirm the most important predictor of the managers' economic efficiency under study is the extent of organizational skills, and this predictor retains its significance both in a relatively calm and in a more unstable economic situation. As for the Big Five factors, the most important one is conscientiousness in a relatively calm time span and openness - in the unstable economic conditions.

KEYWORDS

Managerial performance, economic efficiency of managers, communicative and organizational skills, Big Five Factors, Russian economy

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Introduction

Labor market is one of the illustrative indicators of the economic situation in the country, as any economic change tells on the condition of the market immediately, which has been observed in Russia repeatedly in the recent decades. A substantial economic jounce started in the second half of 2014 due to

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loss of value of the ruble caused both by the internal and the external reasons such as sanctions, which taken together led to a full-scale economic crisis in Russia in 2015. The crisis affected the Russian labor market in new jobs freezing, staff structure being optimized and reconfigured (Vinokurov, 2015).

Such rapidly changing conditions of the labor market put forward increasingly high requirements for modern business leaders – whether in their preparation and competence or in their professional and personal qualities. Under these circumstances, successful self-fulfillment in the professional sphere becomes a vital task both for the employees and for organizations they work at. Each company develops its own policy of selection and training of managers, its own criteria for assessment of them proceeding from the standpoint that it is only a successful manager who will bring profit to the company. More and more frequently the HR workers pay attention not only to improvement of managers' professional qualifications but also to evaluation and account of their psychological features, such as motivation, abilities, emotional, intellectual, personal qualities etc. (Bodrov, 2001).

The authors believe that the problem of psychological particularities influencing the efficiency of managerial work becomes especially relevant in a situation of economic instability. It is certain psychological qualities – abilities, intellect, personality traits and so on – that are most likely to help managers adapt or interfere with them in a crisis situation, to promote or not to promote their professional efficiency under changed conditions.

This research considers the personality traits of the Five-factor model (Big Five) and communicative and organizational skills as psychological predictors of managers' efficiency. Certainly, managerial performance is also influenced by other psychological particularities that have to be considered in further research not less closely.

The objective of this research is to discuss the Big Five personality traits as well as organizational and communicative skills as possible psychological predictors of economic efficiency in managers of commercial organizations. As the study was conducted from December 15, 2014 to December 15, 2015, there emerged a further opportunity to compare the influence of the psychological predictors studied on the efficiency of managerial work both in a relatively calmer situation (2014) and in the midst of the economic crisis in Russia (2015).

Literature Review

The problem of psychological predictors for the successful professional activity gained shape back at the turn of the 19th-20th centuries, when psychotechnics or human engineering was created (Munsterberg, 1913). Rapid development of psychotechnics as a practical area of psychology ceased in Russia at the end of the 1920s. A new surge of interest in psychological research in the sphere of the Russian economy and business was observed at the end of the 20th century due to abrupt social and economic change in Russia.

In the recent years, Russian psychologists have completed a lot of studies dealing with managerial abilities and professionally qualities of leaders that are important by and large and in particular in the business sphere discussed in this research. For instance, A.K. Markova (1996) suggested a systemic psychological concept of professionalism, singled out and generalized the psychological factors influencing the professional development of personality. N.I. Kalakov &

N.N. Safukova (2011) studied the proportion of personal qualities and particularities of professional activity and found some significant relationships between personal qualities and professional skills and abilities. The research of A.A. Derkach (2004) works out an acmeological system of personal and professional development of employees and managers, with special attention within the approach being paid to the necessity to develop the communicative and organizational abilities in order to ensure self-fulfillment of employees occupying the leader's position in efficient management.

On balance, currently there is a rise of the Russian psychologists' interest in studying the personality factors of professional activity, which has found its expression e.g. in the comprehensive monograph "Personality of a professional in the modern world" (2013).

The Western psychology views first of all the Five-factor model (Big Five) personality traits as the significant psychological predictors of professional efficiency. The most widespread variant of the Big Five model is one suggested by R. McCrae and P. Costa in 1992 (McCrae & John, 1992; The Five-Factor Model of personality across cultures, 2002) on the basis of generalizing a number of previous studies. Within the variant, it is suggested that each of the global personality traits is orthogonal in relation to the others and includes six constituents (Furnham & Heaven, 1999; Novikova, 2013):

1) Neuroticism, N: irritability, anxiety, sadness, nervous tension, vulnerability to stress, developed self-consciousness (the opposite pole is emotional stability);

2) Extraversion, E: sociability, assertiveness, high activity, search for new feelings, warmth and positive emotions in relations with others (the opposite pole is introversion: calmness, passivity, restraint);

3) Openness, O: inquisitiveness, creativity, intellectuality, fantasy, esthetic feelings, values and ideas (the opposite pole includes narrow interests, mediocrity and narrow-mindedness);

4) Agreeableness, A: kindness, trustfulness, altruism, appeasability, complaisance, modesty (the opposite pole is hostility, egoism, incredulity);

5) Conscientiousness, C: competence, thoroughness, reliability, organized nature, task orientation, circumspection (the opposite pole is lack of control over one's impulses, disorderliness).

Already at the end of the 1990s, M. Mount & M. Barrick (1995) using the Five-factor model demonstrated that reliable prediction of work activity particularities was possible for most professional areas based on the extent of such factors as conscientiousness, compliance and emotional stability.

The results of numerous later studies (Judge, Martocchio & Thoresen, 1997; Furnham & Heaven, 1999; Hochwater, Witt & Kacmar, 2000; Hurtz & Donovan, 2000; Barrick, Stewart & Piotrowski 2002), on the whole, confirm that conscientiousness is the most significant predictor of managers' professional efficiency the most frequently but depending on the certain sphere of activity other traits can be predictors too. For instance, S. Rothmann & E.P. Coetzer (2003) found that emotional stability, extraversion, openness and compliance were positively related to the process of tasks solving and creativity in the professional activity of a pharmaceutical company employees while the

emotional stability, openness and compliance explained the 28% variance in professional efficiency of managers under study.

A very interesting study of the Big Five personality factors influence on professional efficiency of the mid-level managers was conducted by I.S. Oh & C.M. Berry (2009). In this research, the managerial performance was assessed using the "360 Degree Ratings" procedure in two variants: 1) neither peer employees nor the subordinates know their manager will see their scores; 2) both subordinates and peer employees know the scores they give will be known to their manager. In the first case, the relations between the 360 Degree Rating results and personality factors were weak or absent at all while in the second case the closeness and stability of the relations increased greatly. The authors of the research suppose the personality factors can be more significant predictors of managerial performance when using more diverse methods to evaluate it.

It should be mentioned that the authors also studied the relation of the Big Five personality factors to managers' efficiency determined using the 360 Degree Rating procedure (Novikova & Obidina, 2016; Novikova, Shlyahtha & Obidina, 2016). As a result, they have found that the professional efficiency indices are negatively related to the extent of neuroticism and positively related to the extent of other factors (the closest relation is the one with conscientiousness, the least close – with openness to experience).

T.A. Judge et al. (2013) published the results of meta-analysis of studies that deal with revealing the relation of the Big Five factors and their constituents (facets) with job performance particularities. The authors analyzed 1176 correlations of 410 independent samples, the total quantity being 406029 people. They believe that when explaining the job performance greater attention should be paid to contribution of individual constituents (facets), even though the numerous empirical studies and over 10 meta-analyses show the important role of the main Big Five factors, conscientiousness in particular. So, using the example of analysis of the quality of performing the set tasks and the ability to orient oneself and make correct decisions up to the professional activity situation, the connection of each of the Big Five factors with each of six aspects corresponding to them was confirmed (Judge et al., 2013).

Having analyzed the literature on the problem, the authors have selected for studying as possible psychological predictors of managers' efficiency the Big Five personality traits that are most actively studied within the context of professional efficiency problem in the Western psychology, as well as the communicative and organizational skills the role of which in managerial performance is discussed in the works of many Russian researchers.

Research Methods

Sampling

The research was conducted in 2014-2015 on the basis of a commercial organization which is active in retail selling of clothing and accessories. The company is a subsidiary of a large Russian company ranking 142 among the leaders of the Russian business according to RBC as of 2015 (RBC, 2016). The studied subsidiary has existed since 2003 and now includes over 700 shops, 71 of which are located in Moscow (less than 10%) and the others are represented in

almost all regions of Russia, in Kazakhstan, the Ukraine, Belarus and China (20 shops).

310 managers (directors of the company shops), aged 21 to 42, of them 228 women and 82 men, took part in the research. All the participants had secondary vocational or higher education, and not less than one year work experience as a director of the company shop. 27 people (8,7 %) are directors of shops located in Moscow and Moscow region, others head those situated in the regions of Russia. All shop directors of the company who had worked at it for not less than a year as of the point of the research took part in the study. The percentage distribution of the participants in gender, age, and regions corresponds to the similar indices for the company as a whole (for directors of shops), so the composition of sampling is representative with respect to the general total.

The study was conducted during so-called "Profi teaching", a study program for the mid-level managers and shop directors who have completed the trial period. The program includes five online trainings and webinars aimed at the development of professional qualities that are essential for a shop director in line with his position profile. The respondents filled out the e-forms of psychological questionnaires suggested online via the study portal of the company that is supported by the Distance learning system (DLS).

Techniques

For diagnosing the Big Five factors, the NEO FFI Five-factor questionnaire was used – its Russian adaptation by S.D. Biryukov (Biryukov & Vasil'ev, 1997; Vorobyeva, 2011). The questionnaire has been developed within the Five-factor model of personality touched on above. It consists of 60 statements concerning which the surveyed ones express the extent of their agreement using a 5-point scale. 12 statements correspond to each of the 5 personality factors, so the total scores for each factor range from 12 to 60 points.

The Communicative and organizational inclinations (COS) questionnaire of V.V. Sinyavsky and B.A. Fedorishin was applied for revealing the communicative and organizational skills (Istratova & Eksakusto, 2006). The questionnaire includes two scales: the organizational inclinations one and the communicative inclinations one, each containing 20 questions to be answered yes or no. The corresponding coefficient – the quantity of answers coinciding with the key divided by the maximum possible quantity of coincidences – is calculated for each scale, so the coefficients can vary from 0,05 to 1,00. Although the results of COS reflect not so much the actual behavioral characteristics of the personality, rather than the particularities of the person's self-perception, the studies conducted previously show the correlations of the sociometric status and the personality's perception of the development level of its communicative and organizational abilities. This gives evidence for the validity of the tool (Maksimenko, 2008).

As an index of managers' efficiency, the index of sales plan performance by the shops headed by the managers under study. The sales plan is set for a year, and its value is calculated individually for each area in the town or city, taking into account the economic factors, sales figures for the previous year, and the shop area. In order to standardize the indices, the sales plan is set in per cent.

The data about 2014 and 2015 sales plans performance were obtained from the company's in-house report supplied by the retail sales department. It follows from the report that despite the economic crisis of 2015, the percentage of plan performance by the represented shops remains rather high on average, although the company had to significantly reduce the scheduled quantity of new shops to be opened, to postpone the shop staff expansion, and to conduct some personnel optimization procedures in the company. Nevertheless, in absolute figures, the performance of sales plan in 2015 was achieved to a great extent due to the ruble rate drop as compared to the foreign currencies, with the quantity of products sold decreasing, which was the consequence of crisis phenomena in the Russian economy.

Statistical processing of the results involved the descriptive statistics methods, Spearman rank correlation analysis, and linear regression analysis (the method of direct search for all possible predictors).

Results and Discussion

The main parameters of descriptive statistics of the variables studied are given in Table 1.

Table 1. Descriptive statistics for sales plan performance, COS and NEO FFI (N = 310)

Variables		Mean	SD	Median	Min	Max	Kurtosis
Sales plan performance	2014	86,05	9,13	87	71	114	-0,55
	2015	85,84	7,59	87	73	102	-1,1
COS	Communica- tive skills	0,75	0,1	0,74	0,54	1	0,31
	Organizational skills	0,72	0,14	0,7	0,46	1	-0,74
NEO FFI	Neuroticism	24,51	10,08	24	1	47	-0,54
	Extraversion	33,79	6,38	33	20	48	-0,74
	Openness	33,07	5,89	33	20	46	-0,74
	Agreeableness	28,6	7,57	25	2	46	-0,68
	Conscientious- ness	31,77	8,59	31,5	12	49	-0,97

At the first stage of data processing, rank correlation analysis was performed for all the variables studied. Its results are given in Table 2.

Table 2. Spearman Correlations between sales plan performance, COS and NEO FFI (N = 310)

N	Variables	1	2	3	4	5	6	7	8	9
1	Sales plan perfor- mance in 2014	1								
2	Sales plan	0.64 ***	1							

		performance in 2015								
3	Communicative skills	0,38 ***	0,20 ***						1	
4	Organizational skills	0,46 ***	0,32 ***	0,43 ***					1	
5	Neuroticism	0,24 ***	-0,17 ***	-0,31 ***	-0,19 ***				1	
6	Extraversion	0,28 ***	0,18 ***	0,23 ***	0,29 ***	-0,15 ***			1	
7	Openness	0,24 ***	0,16 **	0,06	0,02	-0,10*	0,40 ***		1	
8	Agreeableness	0,19 ***	0,16 **	0,27 ***	0,34 ***	-0,21 ***	0,38 ***	-0,02	1	
9	Conscientiousness	0,44 ***	0,23 ***	0,30 ***	0,36 ***	-0,10*	0,24 ***	0,08	-0,04	1

Note. * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$.

The results given in Table 2 confirm that the per cent of sales plan performance which the authors view as an index of economic efficiency of a shop director's work has a statistically valid connection with all the psychological variables studied according to the results both of 2014 and of 2015. However, it is evident that the closeness of these connections decreases in 2015 against the background of more pronounced economic instability in the Russian economy.

It should be pointed out that the extent of managers' organizational skills has the strongest positive correlation with the plan performance indices ($r = 0.46$, $p \leq 0.001$ for 2014, $r = 0.32$, $p \leq 0.001$ for 2015). Supposedly, the skills promote managing the shops efficiently both in relatively calm and in crisis economic situations. The extent of communicative skills is less closely connected with managerial performance indices, especially in the more unstable situation of 2015 ($r = 0.38$, $p \leq 0.001$ for 2014, $r = 0.20$, $p \leq 0.001$ for 2015). The authors deem it to be quite logical as a manager's communicative skills are the factor first of all influencing the creation of favorable atmosphere in the shop work team but not the sales directly. The point is that the shop manager does not take part in direct sales, does not work with the shop's customers – unlike the sales assistants, whose communicative skills were likely to have become a factor directly influencing the sales.

Conscientiousness is a Big Five factor that is most closely associated with sales plan performance. In particular, in 2014 the positive correlation coefficient ($r = 0.44$, $p \leq 0.001$) is almost equal to that of organizational skills ($r = 0.46$, $p \leq 0.001$) while in 2015 the relation closeness falls abruptly ($r = 0.23$, $p \leq 0.001$). The fact corresponds to the data obtained by numerous foreign studies which show conscientiousness to be one of the major factors of professional efficiency in various spheres. The authors' data demonstrate that managers conscientious, responsible and organized fulfillment of their duties is more significant for their efficiency in an economically stable situation while a more crisis-impaired

situation could demand yet other psychological particularities of personality which remained beyond this research.

The existence of a large quantity of valid correlations between the variables studied has enabled the authors to use the linear regression analysis procedure at the following stage of data processing. The psychological particularities of managers (communicative and organizational skills, as well as the Big Five factors) were considered as independent variables (predictors) while the managers' economic efficiency indices, i.e. the 2014 and 2015 sales plan performance by shops headed by them – as the dependent variables.

First, the complete regression models for the sales plan performance indices in 2014 and 2015 were constructed (see Tables 3-4).

Table 3. Complete regression model for the dependent variable "Sales plan performance in 2014"

Coefficients:				
Model	Estimate	Std.Error	t- value	Signif.
(Intercept)	46,82763	4,70872	9,945	<2,00E-16
Communicative skills	9,90374	5,32284	1,861	0,063771
Organizational skills	18,01285	3,94271	4,569	7,16E-06
Neuroticism	-0,05223	0,04471	-1,168	0,243699
Extraversion	0,01093	0,08295	0,132	0,895274
Openness	0,29849	0,07973	3,744	0,000217
Agreeableness	0,03299	0,06791	0,486	0,627421
Conscientiousness	0,28337	0,0582	4,869	1,81E-06

Note. $R^2 = 0,3575$, $Adj. R^2 = 0,3426$, Residual standard error: 7.404 on 302 DF. F -statistic: 24 on 7 and 302 DF, p -value: < 2.2e-16

Table 4. Complete regression model for the dependent variable "Sales plan performance in 2015"

Coefficients:				
Model	Estimate	Std.Error	t- value	Signif.
(Intercept)	66,52614	4,52053	14,716	<2,00E-16
Communicative skills	1,25926	5,11011	0,246	0,80552
Organizational skills	12,99048	3,78514	3,432	0,000683
Neuroticism	-0,04419	0,04293	-1,029	0,304078
Extraversion	0,01305	0,07964	0,164	0,869993
Openness	0,18079	0,07655	2,362	0,01882
Agreeableness	0,03139	0,06519	0,482	0,630504
Conscientiousness	0,08939	0,05587	1,600	0,110653

Note. $R^2 = 0,1424$, $Adj. R^2 = 0,1226$, Residual standard error: 7,108 on 302 DF. F -statistic: 7.166 on 7 and 302 DF, p -value: 6.146e-08

The multiple correlation coefficients between the dependent variable and predictors for models represented in Tables 3-4 are statistically valid according

to Fisher F-test (F -statistic for 2014: 24 on 7 and 302 DF, p -value: $< 2.2e-16$; F -statistic for 2015: 7.166 on 7 and 302 DF, p -value: $6.146e-08$), which confirms that there is a certain influence of psychological variables studied on the managerial performance.

The model for the dependent variable "Sales plan performance in 2014" (Table 3) explains the 34% variance of this variable (Adj. $R^2 = 0,3426$). Such a determination coefficient is considered to be a not very high one, yet the result can be deemed satisfactory, given the huge quantity of external and internal factors influencing the shops' sales plan performance per cent and only a small part of which being studied in this research. In this model, valid predictors are the extent of managers' organizational skills as well as such personality factors as openness and conscientiousness.

The complete regression model for the dependent variable "Sales plan performance in 2015" explains only 12 % variance of this variable (Adj. $R^2 = 0,1226$). Here the valid predictors are only the independent variables "organizational skills" and "openness". The facts confirm the previous suggestions to the effect that under economic instability the influence of psychological factors (especially personality traits) on managerial performance decreases dramatically.

However, it is curious that conscientiousness which was a more valid predictor than openness in a relatively more stable economic situation of 2014 loses its significance in the 2015 model, while openness retains its validity – at a lower level, though. Therefore, of all the Big Five personality factors, in a relatively more stable economic situation the studied managers' economic efficiency is most influenced by conscientiousness (which is expressed in an organized nature, circumspection, reliability and so on), and in a more crisis-impaired situation – by openness, i.e. creativity and flexibility that could help orient better in rapidly changing economic conditions and find ways out of problem situations.

In order to obtain a more practical description, the next stage involved analyzing all the input models by the method of search of all possible predictor combinations with evaluating the informational contribution of each set using the Bayesian information criterion, Bic. Models having the highest information load at the smallest quantity of predictors were selected for further analysis (Tables 5-6).

Table 5. Regression model with the valid predictors for the dependent variable "Sales plan performance in 2014"

Model	Coefficients:			
	Estimate	Std.Error	t- value	Signif.
(Intercept)	-23,956	3,03097	-7,904	4,94E-14
Organizational skills	16,3861	3,10143	5,283	2,41E-07
Openness	0,1722	0,06675	2,58	0,0104
Conscientiousness	0,2058	0,05066	4,062	6,18E-05

Note. $R^2 = 0,2194$, Adj. $R^2 = 0,2118$, Residual standard error: 7,108 on 306 DF. F -statistic: 28.67 on 3 and 306 DF, p -value: $2.3e-16$

Table 6. Regression model with the valid predictors for the dependent variable "Sales plan performance in 2015"

Model	Coefficients:			
	Estimate	Std. Error	t- value	Signif.
(Intercept)	66,71601	3,08918	21,597	< 2e-16
Organizational skills	17,41869	2,8883	6,031	4,68E-09
Openness	0,2014	0,06871	2,931	0,00363

Note. $R^2 = 0,1282$, Adj. $R^2 = 0,1226$, Residual standard error: 7,108 on 306 DF. F -statistic: 22.58 on 2 and 307 DF, p -value: 7.086e-10

The multiple correlation coefficients between the dependent variable and predictors for the models presented in Tables 5-6 are statistically valid in Fisher F -test (F -statistic for 2014: 28.67 on 3 and 306 DF, p -value: 2.3e-16; F -statistic for 2015: 22.58 on 2 and 307 DF, p -value: 7.086e-10), which confirms that the psychological variables studied influence the managerial performance.

The regression model having the minimum quantity of valid predictors for the dependent variable "Sales plan performance in 2014" (Table 5) explains 21% variance of the variable (Adj. $R^2 = 0,2118$). The valid predictors are the extent of organizational skills, conscientiousness and openness. The regression model having the minimum quantity of valid predictors for the dependent variable "Sales plan performance in 2015" (Table 6) explains the much smaller per cent of variance of this variable – 12% (Adj. $R^2 = 0,1226$). It is only the extent of organizational skills and openness that remain valid predictors.

Conclusion

The research conducted has revealed the psychological factors produce a certain effect on the economic efficiency of shop directors determined as per cent of sales targets achieved by the shops managed by them. The influence of the psychological variables under study (organizational and communicative skills, as well as Big Five personality traits) on the managers' efficiency is more pronounced in a relatively calmer economic situation of 2014 (the percentage of explained variance in different models is 21-34%) rather than in the crisis of 2015 (the percentage of explained variance in different models is 12%).

Comparison of all regression models obtained confirms that the most important predictor of managerial performance is the extent of organizational skills (this predictor retains its significance both in a relatively calm and in a more unstable economic situation). As for the Big Five factors, the most important one is conscientiousness in a relatively calm time span and openness – in the unstable economic conditions.

The results obtained have to be taken into account first of all during the professional selection of managers and secondly – in the professional study programs for managers while paying a special attention to developing and improving their organizational abilities and skills.

Disclosure statement

No potential conflict of interest was reported by the authors.

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