

# A Model for the Core Competences Validation Using Behavioral Anchored Rated Scales within the Romanian Agency for Employment as Changing Organization

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**Abstract.** Core competences are not specific to any occupation. One could demonstrate the competency of “teamwork” or “client orientation”, for example, in performing any job. Therefore, considering the European projects of development and continuous training concerning the technological development and globalization, the employees of the ANOFM agencies must participate to periodical professional trainings in order to adapt to these new competences such as: flexibility, adapting to new technologies and techniques, teamwork. Consequently, the psychological tests must be predicatively validated to a composite criterion which has as dimensions Behavioral Anchored Rating Scales designed as descriptors of workplace behaviours according to the technological development and globalization. This study highlights the fact that  $\beta$  coefficients of the multiple regression model are statistically significant ( $p < 0.05$ ) for the Behavioral Anchored Rating Scales designed to predicatively validate psychological tests. Therefore, this study shows the fact that both the employees as human beings and psychological tests applied in personnel selection and evaluation must be correlated with the periodical changes brought by globalization and technological development.

**Keywords:** core competencies, behavioral rating anchors, training needs, qualification requirements, sustainable development, career counseling.

## 1. Introduction

### 1.1. Defining core competences

Defining competencies is important both for the Organization and for the employee. Competencies are forward-looking in the same way with the development of technology and globalization. They describe the skills and attributes staff and managers will need in order to build a new organizational culture and meet future challenges. They help organizations to clarify expectations, define future development needs, and do more focused recruitment and development planning. Competencies provide a sound basis for consistent and objective performance standards by creating shared language about what is needed and expected in an organization. Core and managerial competencies are not specific to any occupation. One could demonstrate the competency of “teamwork” or “client orientation”, for example, in performing any job. To complement the core competencies, individual departments may choose to define functional competencies related to their respective areas of work according to the globalization and technological development.

### 1.2. Behavioral anchors rating scales

[1] cited by [2] and [3] consider that BARS approach not only meets the guidelines for fair employment practices but it may improve reliability of personnel assessment and enhance communication when evaluating employees and also when the impact of Globalization on Technological Changes upon organizations and society leads to sustainable development at workplace. Maiorca showed the following 8 steps in developing the Behavioral Anchored Rating Scales:

Step 1. Gathering Critical Incidents: research has shown that critical incidents based on recall are just as

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useful for instrument construction as critical incidents based on direct observation of job behavior [1] cited by [2].

Step 2. Sorting Critical Incidents into Categories, more than eight people who have some basic familiarity with the type of work being appraised may independently sort a set of critical incidents into as many categories as they choose.

Step 3. Analyzing Categories. This step is tedious but important. In some cases, categories will be combined, and some idiosyncratic categories will be eliminated. Judgment plays an important part in this process.

Step 4. Developing Critical Incidents. Critical incidents, by definition, represent extreme behavior - extremely good or extremely bad [4]. A complete scale, however, requires items that illustrate all levels of performance.

Step 5. Scale Retranslating: employees are given entire sets of critical incidents, with each critical incident on a separate card and all cards mixed together. A critical incident generally is said to be successfully retranslated if some percentage of the raters reassign it back to the dimension from which it came.

Step 6. Developing Numeral Scale Values For Critical Incidents: For each critical incident, the range and standard deviation of SME ratings are computed [1].

Step 7. Preparing Final Instrument Draft: Besides the concern for the physical arrangement of the instrument, a final check on the wording of item, descriptions, labels, etc., is appropriate at this point.

Step 8. Reliability, Pretesting And Debugging: the scales which will use the new instrument are asked to examine and critique the form. If their comments point to serious deficiencies, some of the previous steps must be repeated.

Once established, any evaluator can use the BARS approach to assess any employee for a given position with the least amount of subjective input. If the steps given here are followed correctly, the result is likely to be a well-designed instrument that can be validated.

### **1.3. Romanian national agency for employment as changing organization**

The study emphasizes the methodology of developing a personnel selection and personnel evaluation system based on core competences in changing the behavior in organizations as Approval Standards requirements applied to any person who voluntarily seeks to be accredited as career counseling for the Public Agency for Employment Development in Romania.

The project started in 2009 and in 2010-2011 is the moment of the highest impact in developing the core competences based on behaviorally anchored rating scales for the career counseling agent. The behaviorally rated anchored scales were developed using desired behaviors for the Romanian National Agency for Employment as required for the UE Approval Standards concerning the impact of Globalization on Technological Changes upon organizations that will lead to sustainable development.

## **2. Objectives and hypothesis**

### **2.1. Objective**

The research objectives are the following:

- to design the core competences using behaviourally anchored rating scales for the Romanian National Agency for Employment as changing organization according the UE legislation;
- to validate the core competences with the psychological testing battery taking into consideration the organizational changing behaviour and the Impact of Globalization on Technological Changes.

### **2.2. Hypothesis**

Verbal core competences, written core competences, focused attention core competences, decision taking core competences, nonverbal language comprehension core competences, modern technology abilities core competences, empathy core competences, problem solving core competences, team player core competences, planning activities core competences, planning activities core competences, openness to new information core

competences, flexibility core competences, civic attitude core competences, personal development core competences are predictors for total performances measured with BARS.

### 3. Method

#### 3.1. Participants

The participants are 100 career counseling agents from Romania, aged between 20 and 54 years old, rural and urban areas, normally distributed from all the Employment Development Agencies.

#### 3.2. Materials and Instruments

The core competences as behavioral behaviorally anchored rating scales and psychological testing battery according to the core competences: verbal and written linguistic competences, focused attention, decision, nonverbal language comprehension, modern technology abilities, empathy, problem solving, team player, planning activities, openness to new information, flexibility, civic attitude and personal development.

### 4. Results

Applying the multiple regression model according to the core competences as Behaviourally Anchored Rating Scales, the testing battery selected was validated for the career counseling agents evaluation and selection according to the Globalization on Technological Changes upon organizations and sustainable development of organizational changing behaviour. Table 1 shows the descriptive statistics of the independent and dependent variables.

Table 1 Descriptive statistics, mean and standard deviation

Variable	Mean	Standard deviation
1. Total performance measured with BARS	61.51	11.14
2. verbal core competences	44.25	10.17
3. written core competences	26.16	10.66
4. focused attention core competences	47.94	12.83
5. decision taking core competences	65.82	18.51
6. nonverbal language comprehension core competences	42.12	15.27
7. modern technology abilities core competences	46.94	12.83
8. empathy core competences	65.82	18.51
9. problem solving core competences	42.12	15.27
10. team player core competences	35.61	18.35
11. planning activities core competences	66.82	18.51
12. openness to new information core competences	41.12	15.27
13. flexibility core competences	38.61	18.35
14. civic attitude core competences	42.36	28.62
15. personal development core competences	38.15	26.74

The correlation matrix reveals the statistically significant correlations between the criteria and the predictor variables. Analyzing the multiple regression model for the composite criterion, the multiple correlation coefficient shows a high and statistically significant correlation between the predictors and the criterion ( $r=0.741$ ,  $p<0.05$ ). Also, the beta coefficients show that the variables of the tests are predictors of the performances registered with the BARS ( $p<0.05$ ).

The correlation matrix (table 2) reveals the statistically significant correlations between the criteria and the predictors (independent variables of the psychological test). Thus, the total performances measured by BARS, has a statistically significant positive correlation with the following predictors: verbal core competences ( $r=.39$ ;  $p<0.1$ ), written core competences ( $r=.37$ ;  $p<0.1$ ), focused attention core competences ( $r=.28$ ;  $p<0.1$ ), decision taking core competences ( $r=.31$ ;  $p<0.1$ ), nonverbal language comprehension core competences ( $r=.27$ ;  $p<0.1$ ), modern technology abilities core competences ( $r=.38$ ;  $p<0.1$ ), empathy core competences ( $r=.23$ ;  $p<0.1$ ), problem solving core competences ( $r=.26$ ;  $p<0.1$ ), team player core competences ( $r=.23$ ;  $p<0.1$ ), planning activities core competences ( $r=.22$ ;  $p<0.1$ ), planning activities core competences ( $r=.22$ ;  $p<0.1$ ), openness to new information core competences ( $r=.34$ ;  $p<0.1$ ), flexibility core competences

( $r=.28$ ;  $p<0.1$ ), civic attitude core competences ( $r=.11$ ;  $p<0.1$ ), personal development core competences ( $r=.11$ ;  $p<0.1$ ).

By analyzing the correlation between the independent variables, a positive statistically significant correlation has been obtained: decision taking and focused attention ( $r=.21$ ;  $p<0.01$ ), verbal core competences and written core competences ( $r=.45$ ;  $p<0.01$ ), modern technology abilities core competences and verbal core competences ( $r=.21$ ;  $p<0.1$ ), modern technology abilities core competences and written core competences ( $r=.28$ ;  $p<0.1$ ), modern technology abilities core competences and focused attention core competences ( $r=.31$ ;  $p<0.1$ ), modern technology abilities core competences and decision taking core competences ( $r=.23$ ;  $p<0.1$ ), modern technology abilities core competences and nonverbal language comprehension core ( $r=.20$ ;  $p<0.1$ ), problem solving core competences and decision taking core competences ( $r=.28$ ;  $p<0.1$ ), problem solving core competences and nonverbal language comprehension core competences ( $r=.33$ ;  $p<0.1$ ), problem solving core competences and modern technology abilities core competences ( $r=.38$ ;  $p<0.1$ ), team player core competences with verbal core competences ( $r=.28$ ;  $p<0.1$ ), team player core competences with written core competences ( $r=.24$ ;  $p<0.1$ ), team player core competences with taking decision core competences ( $r=.26$ ;  $p<0.1$ ), team player core competences with modern technology abilities core competences ( $r=.33$ ;  $p<0.1$ ), team player core competences with empathy core competences ( $r=.39$ ;  $p<0.1$ ), planning activities core competences and verbal core competences ( $r=.20$ ;  $p<0.1$ ), planning activities core competences and written core competences ( $r=.23$ ;  $p<0.1$ ), planning activities core competences and decision taking core competences ( $r=.21$ ;  $p<0.1$ ), planning activities core competences and nonverbal language comprehension core competences ( $r=.27$ ;  $p<0.1$ ), team player core competences and verbal core competences ( $r=.28$ ;  $p<0.1$ ), team player core competences and written core competences ( $r=.24$ ;  $p<0.1$ ), team player core competences and decision taking core competences ( $r=.26$ ;  $p<0.1$ ), team player core competences and nonverbal language comprehension core competences ( $r=.33$ ;  $p<0.1$ ), team player core competences and empathy core competences ( $r=.29$ ;  $p<0.1$ ), openness to new information core competences and verbal core competences ( $r=.22$ ;  $p<0.1$ ), team player core competences with written core competences ( $r=.21$ ;  $p<0.1$ ), team player core competences and modern technology abilities core competences ( $r=.27$ ;  $p<0.1$ ), flexibility core competences and verbal core competences ( $r=.20$ ;  $p<0.1$ ), flexibility core competences and written core competences ( $r=.23$ ;  $p<0.1$ ), flexibility core competences and taking decision core competences ( $r=.21$ ;  $p<0.1$ ), flexibility core competences and nonverbal language comprehension core competences ( $r=.20$ ;  $p<0.1$ ), flexibility core competences and team player core competences with modern technology abilities core competences ( $r=.28$ ;  $p<0.1$ ), flexibility core competences and team player core competences ( $r=.35$ ;  $p<0.1$ ), flexibility core competences and planning activities core competences ( $r=.31$ ;  $p<0.1$ ), personal development core competences and nonverbal core competences ( $r=.27$ ;  $p<0.1$ ), flexibility core competences and planning activities core competences ( $r=.38$ ;  $p<0.1$ ), personal development core competences and modern technology abilities core competences ( $r=.31$ ;  $p<0.1$ ), personal development core competences and problem solving core competences ( $r=.28$ ;  $p<0.1$ ), personal development core competences and team player core competences ( $r=.21$ ;  $p<0.1$ ), personal development core competences and planning activities core competences ( $r=.36$ ;  $p<0.1$ ), personal development core competences and openness to information core competences ( $r=.33$ ;  $p<0.1$ ), personal development core competences and civic attitude core competences ( $r=.27$ ;  $p<0.1$ ).

For the criterion total performances measured with BARS, the following regression model has been applied (table 2):

Table 2 The regression model for the dependent variable: total performances measured with BARS

Dependent variable: Total performance measured with BARS			Std. coef.	t	p
Independent variables			B		
1	Constant	27.39		14.48	0.000
2.	verbal core competences		0.11	1.88	0.021
3.	written core competences		0.12	2.63	0.000
4.	focused attention core competences		0.18	2.43	0.001
5.	decision taking core competences		0.22	1.85	0.02
6.	nonverbal language comprehension core competences		0.21	1.92	0.032
7.	modern technology abilities core		0.24	2.53	0.001

competences					
8. empathy core competences			0.19	1.87	0.03
9. problem solving core competences			0.15	1.75	0.036
10. team player core competences			0.18	1.69	0.04
11. planning activities core competences			0.17	1.79	0.038
12. openness to new information core competences			0.22	2.58	0.001
13. flexibility core competences			0.14	1.87	0.023
14. civic attitude core competences			0.18	1.92	0.020
15. personal development core competences			0.13	1.72	0.038
F	8.38				0.001
R	0.68				
R2	0.46				
R2 Adjusted	0.45				

\*p<0.05 and \*\*p<0.01

As we can observe in table 3 the regression model explains 46.9% of the variance (R square value).

Also, it is shown that the model is statistically significant (F=8.384; p=0.001) and the R value is 0.685.

The regression equation, obtained from the multiple regression model (table 3) is the following:

performances measured with BARS= verbal core competences\*0.11+ written core competences\*0.12+ focused attention core competences\*0.18+ decision taking core competences\*0.22+ nonverbal language comprehension core competences\*0.21+ modern technology abilities core competences\*0.24+ empathy core competences\*0.19+ problem solving core competences\*0.15+ team player core competences\*0.18+ planning activities core competences\*0.18+ planning activities core competences\*0.17+ openness to new information core competences\*0.22+ flexibility core competences\*0.14+civic attitude core competences\*0.18+ personal development core competences\*0.13

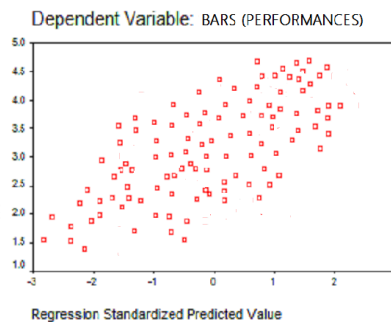


Fig. 1: The scatter plot: predictors total performances measured with BARS

Figure 1 shows that there is a strong positive correlation between the observed variables and the expected ones. The regression model has a predictive value for the chosen criteria: total performances measured with BARS.

## 5. Conclusions

Behaviorally anchored rating scales are the best in predictively validating the psychological tests because the behavioural anchors offer the aptitude tests the best guide marks for the this area concerning behaviour.

The Approval Standards of core competences define three levels of career conciliation agents: 1) minimum qualifications and training needs; 2) medium qualifications and training needs; 3) highest level of qualifications. The labour force takes benefits in highest quality trainings and career conciliation. Thus, the applicants who meet the qualification requirements will be further evaluated by the career counseling agents to determine the extent to which their education and experience indicate the workplace.

As the results in table 3 were obtained, the acquired standardized  $\beta$  coefficients are statistically significant for  $p<0.05$ . Therefore, the psychological tests selected according to the technological development concerning the effect of globalization have predictive value for the behavioural anchors that describe core competences.

The Romanian Public Agency for Employment Development actively seeks candidates who have demonstrated that they have attained the core competencies required for the position of career counseling

agents. Promoting the development of core competencies designed as behavioral rated anchors it is an establishment and maintenance of constructive processes to improve organizational effectiveness according to the Globalization on Technological Changes upon organizations and sustainable development.

Integrating competencies into the Organization is an ongoing process. The study is based on previous studies and theoretical framework highlighted by the authors [5], [6], [7], [8], [9] and [10]. It will be supplemented by additional publications to assist staff and managers in using and strengthening competencies to enhance performance, increase accountability at all levels, and promote continuous development.

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