

FACTOR ANALYSIS OF RANKING OF STATE VOCATIONAL EDUCATION
INSTITUTIONS IN GEORGIA

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Abstract. The article deals with the basic factors of the ranking of vocational institutions founded/co-founded by the state of Georgia. Factor analysis is done.

Keywords and phrases: Factor analysis, ranking of vocational institutions, ranking of factors.

AMS subject classification: 62H25.

According to the resolution N 244 of September 19, 2013 of the Government of Georgia [1] (“About the definition of the conditions and rules of funding the vocational education and affirmation of the maximum amount of tuition fees in the education institutions founded by the state which carry out vocational education programs”) rules and conditions of the funding the vocational education are defined.

According to the above-mentioned rules, each student, in accordance with the specialty, receives a voucher - funding which exceeds the minimum amount necessary for studying. As a result, after graduation there is some money left in the institution - ”supplement” that can be used at their disposal for the purpose of the development of educational process.

We discussed the results (Optimization of the model of state funding for vocational institutions) of the research that had already been made and its common purpose is to promote the optimization of the process of funding a student of vocational institution by the state, namely, distribution of the supplement and collaboration of the optimal model of monitoring.

The research dealt with the students (sample size - 1036) studying in the existing, 18 vocational institutions founded/co-founded by the state. Simple random sampling was done with the method of inquiries - face-to-face interview. Average duration of the interview was 45-50 minutes.

According to 52 parameters students were evaluating their institutions with a 10-point scale.

8 factors are selected from 52 parameters. Most part of the information indicated in 52 parameters was distributed to 8, inter-independent factors (Optimization of the model of state funding for vocational institutions). In its essence the factor is more general category in comparison with the discussed parameters.

Factor N 1. Service for students

Factor N 2. Personal communication with administration

Factor N 3. Teaching quality

Factor N 4. Non-learning environment for students

Factor N 5. Information and communication resources

Factor N 6. Common infrastructure

Table 1: Average Value of Factors According to Colleges

List of Colleges	FAC1-1	FAC1-2	FAC1-3	FAC1-4	FAC1-5	FAC1-6	FAC1-7	FAC1-8
LEPL - Community College Aisi	-0,327	0,220	-1,357	-0,542	-0,489	-0,673	-0,403	0,717
LEPL - Vocational College "Lakada"	-0,057	-0,559	-0,379	0,573	-0,891	-0,272	-0,155	-1,066
LEPL - Vocational College "Erkvani"	0,156	0,224	0,349	0,301	0,904	0,124	0,159	0,186
N(N)PL - Vocational College "Horizonti"	0,219	-0,111	-0,251	0,620	-1,487	-0,127	0,566	-0,017
LEPL - Shota Meskhia Zugdidi State University	0,187	0,067	0,528	0,390	-0,467	0,068	0,136	0,119
LEPL - Community College "Opizari"	-1,548	0,479	-1,176	0,335	0,129	-0,586	-1,753	-0,839
LEPL - Community College Gldani Vocational Training Center	-0,278	-0,363	0,643	-2,447	0,155	0,254	0,261	1,138
LEPL - Community College "Iberia"	0,277	0,109	-0,613	-0,441	-0,595	-0,233	0,557	0,248
LEPL - Education Management Information System	-0,204	0,233	1,080	-3,612	-0,372	0,327	0,567	0,423
LEPL - Vocational College "Black Sea"	0,244	-0,315	-1,527	-0,761	0,388	1,330	-0,981	1,391
LEPL - Vocational College "Tetnaldi"	1,123	-3,908	-1,275	-1,714	2,161	-4,746	-1,044	0,414
LEPL - Community College "Akhali Talgha"	0,394	0,292	-4,094	0,195	-0,217	1,178	-2,186	1,264
LEPL - Vocational College "Modusi"	-0,473	-0,255	-0,792	-1,800	-0,529	-0,022	-0,476	-0,116
LEPL - Vocational College "Pazisi"	-0,883	-0,287	1,007	-0,591	-0,040	-0,588	-3,126	-1,073
N(N)PL - Vocational College "Gantiadi"	-0,412	-0,374	-0,068	0,052	-0,874	-0,080	-1,277	-0,190
LEPL - Community College "Mermisi"	0,216	-0,380	-1,343	0,114	1,101	-0,118	-0,829	-1,038
N(N)PL - Vocational College "Prestige"	-0,404	0,276	-2,284	-0,084	0,061	-0,571	0,805	-1,532
N(N)LE - Vocational College "Ikarosi"	-1,362	-1,294	-1,289	-2,269	1,048	-1,285	-0,928	-2,088

Factor N 7. Educational practice - equipment

Factor N 8. Lecture room

See Table 1.

1. Average meaning of each factor for each institution is defined

$$FAC_i = \sum_{i=1}^L a_i f_i, \quad L = 1, 2, \dots, k, \quad (1)$$

f_i is meaning of i -parameter in factor analysis, a_i is weight of i -parameter in factor analysis and creation of factor meaning.

It's evident from formula (1) that when all parameters in the factor which factor weight is positive and receives high value the factor is high, accordingly, if it receives high one the meaning of factor is low. And in case when parameters in the factor have any meaning, we get relevant meaning for factor taking the factor weights into account.

Standardized meaning of factor is normalized deviation from average meaning.

$$FAC_{i,nor} = \frac{FAC_i - \overline{FAC}_i}{S(FAC_i)},$$

where \overline{FAC}_i is average meaning of the factor according to all institutions discussed in the research and $S(FAC_i)$ is relevant standard deviation.

Negative meaning of the factor in college means that its value is less than all average meaning of colleges.

Data processing was made with IBM SPSS STATISTICS (version 20) statistics package.

R E F E R E N C E S

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