

## RESEARCH ARTICLE

**(Open Access)**

# The Performance Determinants of the Higher Education Institutions in Albania

DAFINA CENAJ<sup>1</sup>, GENTJAN ÇERA<sup>2\*</sup><sup>1</sup>PhD Student, "Aleksander Moisiu" University, Durrës, Albania<sup>2</sup>Agricultural University of Tirana, Tirana, Albania

## Abstract

Albania is a country characterized as a young democracy. The percent of Albanian GDP that is dedicate to the expenditure on education is the lowest percent in the Europe. In Albania operate public and private higher education institutions, 15 and 23, respectively. The aim of this study is to understand which are the determinants of the performance of the Higher Education Institution in Albania. To achieve this objective, it is used the factor analysis, the procedure of the principal component analysis and the reliability analysis. According to the factor analysis and the reliability analysis there are 9 factors that drive the performance of the Higher Education Institutions.

**Keywords:** Performance; Higher Education Institutions; Albania.

## 1. Introduction

Countries that adhere to join the European Union are obliged to harmonize their policies in accordance with EU requirements. Some of these policies are also economic and social policies. Education is a particular area of the state is committed to offer the service. This service can be provided by public and private institutions care institutions.

Education is seen as a sector that determines the economic development and welfare of a country. Average developed countries spend about 4% of GDP on education. In contrast, Albania spends somewhat less than 3% of GDP, by ranking the country that spends less on education in Europe. Statistics show that Denmark is in the top list in Europe in terms of GDP for education expenses (8.33% of GDP). After Denmark are Iceland, Cyprus, Norway, Sweden and Finland, where the public expenditure on education as percent of GDP respectively are 7.48, 7.29%, 6.98%, 6.97% and 6.40% [1].

Higher education in Albania is relatively new. The first university are opened in Albania in 1951. From 1950 until 1992, study quotas in higher education were controlled by the government. He had the right to decide who should continue the higher studies. After

the collapse of the socialist system, the higher education is faced with many problems stemming from the new system: the market economy.

In recent years in Albania, government spending dedicated to higher education are around 0.5% of GDP. This is a very small figure compared with the developed countries such as Denmark, Norway, Finland, Sweden and Cyprus, where the public expenditure on higher education as percent of GDP respectively are 2.41%, 2.16%, 2.04% 1.96% and 1.75% [1]. These countries are on the top list of countries in Europe for public spending on higher education.

The objective of this study is to identify the key factors that determine the performance of the higher education institutions in Albania. Based on literature and logical possible factors that can determine the performance in higher education institutions are: politics and government; aspects of legislation and regulations; social cohesion; possession of laboratories and didactic economy; environmental aspects; organization of the institution of higher education; independence of the institution of higher education; the focus of the institution of higher education; donors and media coverage, and relations with competitors.

\*Corresponding author: Gentjan Çera; E-mail: gcera@ubt.edu.al

(Accepted for publication March 20, 2017)

ISSN: 2218-2020, © Agricultural University of Tirana

## 2. Material and Methods

### 2.1. The data

The aim is the identification of key factors that determine the performance of the higher education institutions in Albania. As long as the performance of the higher education institution has academic and administration aspects, then the performance is required to be measured in two dimensions. In this way, it is logical that these factors investigated by interviewing two categories that govern higher education institutions: academic and administration leaders. The first category included institution leaders (rector), the range of the main unit (dean) and in range of the base unit (department), while in the category of administration leaders are those who perform the task of directors of ancillary activities range university level and in the main unit (chancellor). The assessment provided by these two categories of directors for several groups of factors that affect the activity of the higher education institution may determine the performance of the institution.

The framework of sampling consists in the number of higher education institutions operating in Albania. The sample is determined by the number of main and basic units operating within a higher education institution. Currently, according to the Public Agency for Accreditation of Higher Education in Albania, there are 38 higher education institutions, of which 15 are public higher education institutions and the rest are private higher education institutions.

A survey was conducted to collect the primary data. The identified factors that potentially affect the performance of higher education institutions that operate in Albanian, were listed in a questionnaire designed to be administered to the academic and administrative managers in order to receive their perceptions on the relative importance of the factors. The key question of the questionnaire was “according to your perception, define the impact of these factors on the performance of HEI activity”. The investors were asked to express in a (ordinal) Likert scale their perception on the impact each factor had on their decision to invest. The Likert scale attributes are as follows:

**Table 1.** Likert scale attributes for measuring the factor’s impact scale.

<i>Expression</i>	No impact	Little impact	Moderate impact	High impact	Full impact
<i>Number</i>	1	2	3	4	5

### 2.2. Exploratory Factor Analysis

Exploratory factor analysis (EFA) is a statistical method used to uncover the underlying structure of a relatively large set of variables. EFA is a technique within factor analysis whose overarching goal is to identify the underlying relationships between measured variables [3]. It is commonly used by researchers when developing a scale (a scale is a collection of questions used to measure a particular research topic) and serves to identify a set of latent constructs underlying a battery of measured variables [4]. It should be used when the researcher has no a priori hypothesis about factors or patterns of measured variables [5]. Measured variables are any one of several attributes of people that may be observed and measured. An example of a measured variable would be the physical height of a human being. Researchers must carefully consider the number of measured variables to include in the analysis [4]. EFA procedures are more accurate when each factor is

represented by multiple measured variables in the analysis.

EFA is based on the common factor model. Within the common factor model, a function of common factors, unique factors, and errors of measurements expresses measured variables. Common factors influence two or more measured variables, while each unique factor influences only one measured variable and does not explain correlations among measured variables [3].

EFA assumes that any indicator or any measured variable may be associated with any factor. When developing a scale, researchers should use EFA first before moving on to confirmatory factor analysis (CFA). EFA requires the researcher to make a number of important decisions about how to conduct the analysis because there is no one set method.

### 3. Results and Discussion

Since the content of the questionnaire had 49 items, which is a (relatively) large number to be integrated together into a single factor analysis, then it became expedient that 49 items have be divided into two groups: the first 26 items that composes the potential factors such as politics and government; aspects of legislation and regulations; possession of laboratories and didactic economy; environmental aspects; and relations with competitors; and the last 23 items that composes the potential factors such as social cohesion; organization of the institution of higher education; independence of the institution of higher education; the focus of the institution of higher education; access to donors and media coverage, and autonomy.

Dividing the items into two groups follows the logic of grouping the possible factors according to a certain criteria. This criteria is “the ability to control the factor by the HEI.” According to this criterion, HEI can’t control all the possible factors.

#### 3.1. Factor Analysis of the first 26 items

The first 26 items are composers of the factors that HEI can’t control them. These factors are politics and government, aspects of legislation and regulations, possession of laboratories and didactic economy, environmental aspects, and relations with competitors. For these 26 items is done the factorial analysis. During the process of finding the right solution, which respects the assumptions of the method, it was reasonable to remove seven items. In this way, the results of the first factorial analysis is based on 19 items, instead of 26 items.

**Table 2.** Rotated component matrix for the first 26 (19) items

	Component <sup>a</sup>				
	1	2	3	4	5
Proper use of didactic economy to make money	.895				
Possession of a didactic economy	.868				
Proper use of laboratories for the realization of income	.864				
Possession of certified laboratories	.636				
National Agency functioning for Higher Education Financing		.839			
The financing of the National Research and Innovation Agency		.831			
Strict rules for the financing of basic activity of HEIs		.721			
The law on higher education		.687			
Political stability and vision for the future			.849		
The government’s attitude towards the HEI			.833		
The political stability and continuation of the government			.762		
Country image to foreign institutions			.572		
HEI’s proximity to the city center				.866	
HEI’s proximity to the capital				.856	
Proximity to the neighbouring countries of Albania				.794	
HEI campus and surrounding areas				.536	
Student / lecturer report					.828
Embracing contemporary teaching methods					.754
The absorptive capacity of students					.702

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.  
a. Rotation converged in 5 iterations.

Table 2 shows the rotated components of the factor analysis for the first 19 items. It is noted that the components extracted from the varimax rotation, remain in the same group as they were initially thought. So the items Proper use of didactic economy to make money, Possession of a didactic economy, Proper use of laboratories for the realization of income, and

Possession of certified laboratories, load under the same construct: Component 1. This component is named *Possession and use of didactic economy and laboratories* and it is the component that contribute to explain the total variance analysed more than any other component. The remained components are named: *The functioning of higher education agencies, Policies*

*stability, Geographical aspects, and Student/lecturer rate.* Besides *Student/lecturer rate* component, all the other components have 4 items each.

### 3.2. Factor Analysis of the last 23 items

The last 23 items are composed of the factors that HEI can control. These factors are *Social cohesion;*

*HEI organisation; HEI autonomy; HEI focus; the relation with donors and media coverage.* The factorial analysis is done for these 23 items. During the process of finding the right solution, which respects the method assumptions, it was reasonable to remove four items. In this way, the results of the first factorial analysis is based on 19 items, instead of 23 items.

**Table 3.** Rotated component matrix for the last 23 (19) items

	Component <sup>a</sup>				
	1	2	3	4	5
Commitment to solve public problems	.821				
Inclusion and positioning in discussions of public issues	.770				
HEI's socialization with problems that affect different communities	.764				
HEI's attitude towards values	.745				
The attitude toward work	.713			.302	
Academic autonomy (restrictions by relevant ministries strategies)		.856			
Organizational autonomy (organizational structure)		.856			
Personnel autonomy (remuneration of staff and his recruitment)		.853			
Financial autonomy		.846			
Adapting research by type of research projects			.778		
Provide professional consultancy to third parties			.763		
Focus on activities that can generate income			.727		
Proactive approach to projects funded by third parties			.560	.372	
Exposure / demonstration of HEI capacities				.813	
The goodwill			.302	.776	
Media coverage and marketing policies				.766	
Relations between superior and subordinate					.709
The size of the administration					.708
Assistant staff enough unskilled					.649
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 5 iterations.					

Table 3 shows rotated components of the factor analysis for the first 19 items. Note that the components extracted from the varimax rotation, remain in the same group as they were initially thought. In this way the items Commitment to solve public problems, Inclusion and positioning in discussions of public issues, HEI's socialization with problems that affect different communities, HEI's attitude towards values, and The attitude toward work, load under the same construct: Component 1. This component is named *Public commitment* and it is the component that explain the total variance analysed more than any other component. The items Academic autonomy

(restrictions by relevant ministries strategies), Organizational autonomy (organizational structure), Personnel autonomy (remuneration of staff and his recruitment), and Financial autonomy compose component 2, which is named *Autonomy*. Four other items (Adapting research by type of research projects, Provide professional consultancy to third parties, Focus on activities that can generate income, Proactive approach to projects funded by third parties) compose the component number 3, called *HEI focus*. *Exposure and media coverage* is named the component that is composed by these items: *Exposure / demonstration of HEI capacities, The goodwill, Media coverage and*

marketing policies. The fifth component is composed by three items (Relations between superior and subordinate, The size of the administration, Assistant staff enough unskilled), and it is named *HEI organisation*.

3.3. Reliability analysis of the latent variables

Factor analysis must followed by the Reliability analysis. Reliability in statistics and psychometrics is the overall consistency of a measure [6]. A measure is said to have a high reliability if it produces similar results under consistent conditions. “It is the characteristic of a set of test scores that relates to the amount of random error from the measurement process that might be embedded in the scores. Scores that are highly reliable are accurate, reproducible, and consistent from one testing occasion to another. That is, if the testing process were repeated with a group of test takers, essentially the same results would be obtained. Various kinds of reliability coefficients, with values ranging between 0.00 (much error) and 1.00 (no error), are usually used to indicate the amount of error in the scores” [7]. For example, measurements of people’s height and weight are often extremely reliable [8].

In Table 4 is shown the reliability analysis for 10 factors that are conducted by the factor analysis. Those factors are known as the latent variable or the unobserved variables.

The first factor analysis estimate 5 latent variables, which are: *Possession and use of didactic economy and laboratories*, *The functioning of higher education agencies*, *Policies stability*, *Geographical aspects*, and *Student/lecturer rate*. The second factor analysis estimate the other 5 latent variables, which are: *Public commitment*, *Autonomy*, *Exposure and media coverage*, *HEI focus*, and *HEI organization*.

If the Cronbach’s Alpha of the items that load a latent variable is over 0.7, then they measure the same thing, so the latent variable is reliable [6]. Only the factor named *HEI organization* isn’t reliable, since the Cronbach’s Alpha is under 0.7. So the three items (Relations between superior and subordinate, The size of the administration, and Assistant staff enough unskilled) don’t measure the same thing.

The reliability analysis suggests to remove the component named *HEI organization*, since its items don’t measure the same thing.

So, there are nine latent variables that determines the performance of the Higher Education Institutions in Albania, which are *Possession and use of didactic economy and laboratories*, *The functioning of higher education agencies*, *Policies stability*, *Geographical aspects*, *Student/lecturer rate*, *Public commitment*, *Autonomy*, *Exposure and media coverage*, and *HEI focus*.

**Table 4.** Reliability analysis data for the two Factor Analysis

	Componen t	Latent variable (factor)	Cronbach's Alpha
The 1st FA	1	Possession and use of didactic economy and laboratories	0.890
	2	The functioning of higher education agencies	0.836
	3	Policies stability	0.801
	4	Geographical aspects	0.797
	5	Student/lecturer rate	0.743
The 2nd FA	1	Public commitment	0.859
	2	Autonomy	0.877
	3	Exposure and media coverage	0.832
	4	HEI focus	0.784
	5	HEI organization	0.550

4. Conclusions

The aim of this study is to understand which are the determinants of the performance of the Higher

Education Institution in Albania. To achieve this objective, it is used the factor analysis, the procedure

of the principal component analysis and the reliability analysis.

Albania is a country characterised as a young democracy. The percent of Albanian GDP that is dedicate for expenditure on education is the lowest percent in the Europe. In addition, the expenditure on higher education as percent of Albanian GDP is round 0.5%, which is the lowest percent compared with the countries in Europe.

According to the factor analysis and the reliability analysis there are 9 factors that drive the performance of the Higher Education Institutions. These factors are divided in two groups: those that cannot be controlled by the HEI, and those that can be controlled by HEI.

The factors that cannot be controlled by the HEI are: Possession and use of didactic economy and laboratories, The functioning of higher education agencies, Policies stability, Geographical aspects, and Student/lecturer rate. In the other hand, the factors that can be controlled by the HEI are: Public commitment, Autonomy, Exposure and media coverage, and HEI focus.

The two most important factor that drive the performance of the HEI in Albania, according to the loading score in the factor analysis, are *Possession and use of didactic economy and laboratories* and *Public commitment*.

To have a better performance, the HEI in Albania are suggested to focus on didactic economy and labs, and on public commitment.

## 5. References

1. EUROSTAT: **Expenditure on education as % of GDP or public expenditure**; Website: [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=educ\\_figdp&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=educ_figdp&lang=en); 2017.
2. European Commission: **Approaches to teaching, learning and assessment in competences based degree programmes, Turing 2**; Website: <http://www.unideusto.org/tuningeu/teaching-learning-a-assessment.html>; 2017.
3. Norris M, Lecavalier L: **Evaluating the Use of Exploratory Factor Analysis in Developmental Disability Psychological Research**. Journal of Autism and Developmental Disorders. 2009, **40**(1): 8–20. doi:10.1007/s10803-009-0816-2.
4. Fabrigar LR, Wegener DT, MacCallum RC, Strahan EJ: **Evaluating the use of exploratory factor analysis in psychological research**. Psychological Methods. 1999, 4 (3): 272–299. doi:10.1037/1082-989X.4.3.272.
5. Finch JF, West SG: **The investigation of personality structure: Statistical models**. Journal of Research in Personality, 1997, **31**(4), 439-485.
6. Trochim WK: **Home/Measurement/ Reliability**; website: <http://www.socialresearchmethods.net/kb/reliabl e.php>
7. National Council on Measurement in Education: **Glossary of Important Assessment and Measurement Terms**; website: [http://www.ncme.org/ncme/NCME/Resource\\_Center/Glossary/NCME/Resource\\_Center/Glossary1.aspx?hkey=4bb87415-44dc-4088-9ed9-e8515326a061#anchorR](http://www.ncme.org/ncme/NCME/Resource_Center/Glossary/NCME/Resource_Center/Glossary1.aspx?hkey=4bb87415-44dc-4088-9ed9-e8515326a061#anchorR)
8. Carlson NR, Buskist W, Heth CD, Schmaltz R: **Psychology: the science of behaviour**. Toronto: Pearson; 2009.
9. Toutkoushian RK, Paulsen, MB: **Economics of Higher Education: Background, Concepts, and Applications**: Springes; 2016.