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The Differences on Performance Perception between Public and Private Albanian HEI

Gentjan Çera [α], Dafina Cenaj [σ] & Edmond Çera [ρ]

Abstract- Education is seen as a sector that determines the economic development and welfare of a country. Higher education in Albania is relatively new. Nowadays there are 38 Higher Education Institutions (HEI) that operate in Albania, of which 15 are public and 23 are private HEI. The aim of this research paper is to study the differences on performance perception between public and private Albanian HEI. In this study it is used the factor analysis, the reliability analysis and the discriminant analysis. According to the factor analysis and the reliability analysis there are 9 factors that drive the performance of the HEI. There is a significant difference on some factors of performance perception between public and private HEI in Albania.

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I. Introduction

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). Denmark is followed by 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% (ERUOSTAT, 2017).

Higher education in Albania is relatively new. The first university is 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 (Cenaj & Çera, 2017). This is a very small percentage 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% (ERUOSTAT, 2017).

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Currently, according to the Public Agency for Accreditation of Higher Education in Albania, there are 38 higher education institutions, of which 15 are public HEI and the rest are private HEI. The objective of this study is to identify the differences on performance perception between these public and private institutions that operate in Albanian.

II. Literature Review

The key points of the literature review on the factors that determine the performance of a HEI are: (i) Politics and government, which is mainly related to the sustainability of politics and governance; (ii) The aspects of legislation and regulations relate to laws and regulations adopted and enforced. They promote, but can also limit the performance of HEI. Both politics and legislation find theoretical support mainly to the publication made by Habibulah, Rouf, and Rana (2012); (iii) Social cohesion, which is related to the commitment of the HEI in relation to the community or the particular issues that affect it. This is mainly supported by the work done by Hanushek and Wossmann (2007); (iv) The possession of laboratories and didactic economics is one of the most mentioned points of the research carried out by Habibulah, Rouf, and Rana (2012). They stress out the fact that their mastery constitutes an element of high performance of HEI; (v) Environmental aspects, perhaps not deeply elaborated on the literature, but Habibulah, Rouf and Rana (2012) listed it as a key factor in the performance of HEI; (vi) HEI organization is related to the aspects of the institution's management. This topic was discussed by Jürgen (2004) and Boroah (1994); (vii) HEI autonomy, mainly composed as the financial autonomy. Dougherty and Reddy (2011) show that this component is of particular importance during the performance analysis of HEI; (viii) HEI focus is related to the management, and to the organization of the institutions. Margin son and Wende (2007) and Jürgen (2004) bring strong arguments to this performance component; (ix) Access to donors and media coverage, as a separate part of the organization and management of an institution, especially in the information technology age. As a supporter of this factor is Jürgen (2004); (x) Reports with competitors as an important factor that determine the HEI performance. Rey (2001) and De Fraja and Iossa (2002) argue this factor as a special dimension of the performance of these institutions.

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III. Methods and Procedures

a) Respondents and sampling

The aim is to study the differences on performance perception between public and private Albanian HEI. To do that first it is needed the identification of key factors that determine the performance of the Albanian HEI. As long as the performance of the HEI has academic and administration aspects, then the performance is required to be measured by two different evaluators: academic and administration staff. Therefore these factors are investigated by interviewing the two categories that govern HEI: academic and administration managers. The first category included senior official of the institution (rector), deans and the department head, while in the second category are those who perform the task of directors of ancillary activities in university (chancellor). The assessment provided by these two categories of the HEI managers for several groups of (factors) that affect the activity of the HEI may determine the performance of the institution.

The framework of sampling consists in the number of HEI operating in Albania. The sample is determined by the number of main and basic units operating within a HEI. Currently, there are 38 HEI, of which 15 are public and the rest are private.

A survey was conducted to collect the primary data. The identified factors that potentially affect the performance of Albanian HEI, 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 academic and administrative staff were asked to express in a (ordinal) likert scale their perception on the impact each factor had on their HEI activity.

b) Factor analysis, Reliability analysis and Discriminant 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 (Norris & Lecavalier, 2009). It is commonly used by researchers when developing a scale (a scale is a set of questions used to measure a particular research topic) and serves to identify a set of latent constructs underlying a battery of measured variables (Fabrigar et al., 1999). It should be used when the researcher has no a priori hypothesis about factors or patterns of measured variables (Finich & West, 1997). 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 (Fabrigar et al., 1999). 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 in fluence two or more measured variables, while each unique factor in fluences only one measured variable and does not explain correlations among measured variables (Norris & Le cavalier, 2009).

EFA must be followed by the Reliability analysis. Reliability in statistics and psychometrics is the overall consistency of a measure (Toc him, n.d.). A measure is said to have a high reliability if it produces similar results under consistent conditions. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. Cronbach's alpha can be written as a function of the number of test items and the average inter-correlation among the items. 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.

Discriminant analysis attempts to classify observations described by values on continuous variables into groups. Group membership, defined by a categorical variable X, is predicted by the continuous variables. These variables are called *covariates* and are denoted by Y. Discriminant analysis differs from logistic regression. In logistic regression, the classification variable is random and predicted by the continuous variables. In discriminant analysis, the classifications are fixed, and the covariates (Y) are product of random variables. However, in both techniques, the categorical value is predicted by the continuous variables. The Discriminant platform provides four methods for fitting models. All methods estimate the distance from each observation to each group's multivariate mean (*centroid*) using Mahalanobis distance. You can specify prior probabilities of group membership and these are accounted for in the distance calculation. Observations are classified into the closest group (Hair et al., 2014).

IV. Findings

Since the content of the questionnaire had 49 items (likert scale), which is a large number to be integrated together into a single factor analysis, then those items have to be divided into 2 groups: the first 26 items that composes the potential factors such as politics and government; legislation and regulations aspects; possession of laboratories and didactic economy; environmental aspects; and relations with competitors; and the last 23 items that composes the

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potential factors such as social cohesion or public commitment; the HEI organization; the HEI autonomy; the HEI focus; and access to donors and media coverage. Dividing the items into 2 groups respects 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 (Cenaj & Çera, 2017).

a) Findings regarding the uncontrolled factors

The rotated components of the factor analysis for the first 19 items are shown in Table 1. 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, Possession of certified laboratories, load under the same construct: Component 1, which is named *The possession and use of didactic economy and labs*. The total variance analyzed more than any other component, almost 17%. In addition, the Cronbach's Alpha is 0.890. There are some extra information that the table shows. The load of each item under the main component and the components Cronbach's Alpha if the respective item is deleted. According to the factor analysis, here is no item that loads simultaneous two component more than 0.30. If the item Proper use of didactic economy to make money is deleted, than the component Cronbach's Alpha will be 0.827.

Table 1: A summary of the factor analysis and reliability analysis for the uncontrolled components.

Components and items	Loading	% of Variance	Cronbach's Alpha
The possession and use of didactic economy and labs		16.68	.890
Proper use of didactic economy to make money	.895		.827 (if deleted)
Possession of a didactic economy	.868		.849 (if deleted)
Proper use of laboratories for the realization of income	.864		.836 (if deleted)
Possession of certified laboratories	.636		.911 (if deleted)
Law and regulations		14.07	.836
National Agency functioning for Higher Education Financing	.839		.749 (if deleted)
The financing of the National Research and Innovation Agency	.831		.745 (if deleted)
Strict rules for the financing of basic activity of HEIs	.721		.808 (if deleted)
The law on higher education	.687		.848 (if deleted)
Policy sustainability		13.71	.801
Political stability and vision for the future	.849		.688 (if deleted)
The government's attitude towards the HEI	.833		.743 (if deleted)
The political stability and continuation of the government	.762		.743 (if deleted)
Country image to foreign institutions	.572		.815 (if deleted)
Geographic aspects		13.30	.797
HEI's proximity to the city center	.866		.696 (if deleted)
HEI's proximity to the capital	.856		.718 (if deleted)
Proximity to the neighbouring countries of Albania	.794		.734 (if deleted)
HEI campus and surrounding areas	.536		.820 (if deleted)
Competitiveness		10.83	.743
Student / lecturer report	.828		.624 (if deleted)
Embracing contemporary teaching methods	.754		.682 (if deleted)
The absorptive capacity of students	.702		.666 (if deleted)

The other 4 components are named: Law and regulations, Policy sustainability, Geographical aspects, and Competitiveness.

The total percent of variance is almost 70% and each component is reliable, since their Cronbach's Alphas are bigger than 0.70.

b) Findings regarding the controlled factors

Table 2 shows rotated components of the factor analysis for the controlled factors. Note that the components extracted from the varimax rotation, remain in the same group as they were initially expected. 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, named Public commitment. This is the component that explains the total variance analyzed more than any other component (somewhat more than 17%).

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

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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 organization.

The total percent of variance is almost 70%. Beside the HEI organization component, all component is reliable, since their Cronbach's Alphas are bigger than 0.70.

Table 2: A summary of the factor analysis and reliability analysis for the controlled components.

Components and items	Loading	% of Variance	Cronbach's Alpha
Public commitment		17.023	.859
Commitment to solve public problems	.821		.814 (if deleted)
Inclusion and positioning in discussions of public issues	.770		.832 (if deleted)
HEI's socialization with problems that affect communities	.764		.834 (if deleted)
HEI's attitude towards values	.745		.828 (if deleted)
The attitude toward work	.713		.840 (if deleted)
Autonomy		15.638	.877
Academic autonomy (restrictions by ministries strategies)	.856		.838 (if deleted)
Organizational autonomy (organizational structure)	.856		.842 (if deleted)
Personnel autonomy (remuneration & recruitment)	.853		.846 (if deleted)
Financial autonomy	.846		.843 (if deleted)
The HEI focus		13.134	.806
Adapting research by type of research projects	.778		.709 (if deleted)
Provide professional consultancy to third parties	.763		.754 (if deleted)
Focus on activities that can generate income	.727		.777 (if deleted)
Proactive approach to projects funded by third parties	.560		.784 (if deleted)
Exposure and media coverage		12.745	.830
Exposure / demonstration of HEI capacities	.813		.734 (if deleted)
The goodwill	.776		.752 (if deleted)
Media coverage and marketing policies	.766		.815 (if deleted)
The HEI organization		9.170	.550
Relations between superior and subordinate	.709		.347 (if deleted)
The size of the administration	.708		.396 (if deleted)
Assistant staff enough unskilled	.649		.635 (if deleted)

Table 3: Tests of Equality of Group Means.

	Wilks' Lambda	F	Sig.
The possession and use of didactic economy and labs	.998	.339	.561
Law and regulations	.969	6.259	.013
Policy sustainability	1.000	.006	.937
Geographic aspects	.998	.352	.553
Competitiveness	.999	.263	.609
Public commitment	1.000	.091	.763
Autonomy	.436	252.5	.000
Exposure and media coverage	.999	.099	.754
HEI focus	.992	1.636	.202
HEI organization	.998	.328	.567
Staff category: academic, administrative	.951	10.08	.002
Working experience	.851	34.11	.000

c) Differences between public and private HEI

The key research question of this study is: Are there any differences on performance perception between public and private Albanian HEI? The discriminant analysis reports that only 4 factors confirm the existence of differences in the average of the groups created by the institutions types: public vs private. Those factors are: Law and regulations; Autonomy, Staff category, and Working experience. This means that the average of the named factors is statistically different for the two categories of the institutions types. Thus, their average for public institutions is statistically different

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from private institutions. The result of the *Working experience* factor was also expected, as it is clear that staff working for public institutions have more work experience (See Table 3).

In Albania, the public HEI have more years of experience than the private HEI. Interestingly, the other three factors resulted in statistically different in mean for each group of types of HEI that operate in Albania.

In order to keep on with the discriminant analysis, it is needed to test if the listed factors discriminate the two groups of institutions. This test can be checked through "Lambda Wilksit" statistic, which tests the discriminant function. The following table briefs on this test. Since the value of Sig. is very small (almost 0), then it comes to the conclusion that statistically the factors discriminate groups of institutions types (See Table 4).

Table 4: Wilks' Lambda test.

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.220	286.290	12	.000

The question is, how much is the weight of each factor in order to maximize the discrimination of groups. This question is analyzed through a table that automatically is generated by the SPSS statistical software. Factors are ranked according to their weight to maximize the discrimination of institutions types. Thus, factors such as autonomy, staff category, working experience, law and regulations, the possession and use of didactic economy and labs, and so on, make the greatest contribution to the discrimination of the institutions types. The smallest weight in this function goes with HEI focus, competitiveness, geographic aspects and so on. The weight of each factor is reported in the second column of the table below. Thus, the extremes of the column represent the factors that discriminate the most the institutions types compared with the factors listed in the middle of the table.

Table 5: Standardized Canonical Discriminant Function Coefficients.

	Function
	1
Autonomy	1.335
Working experience	.212
Law and regulations	.163
The possession and use of didactic economy and labs	.091
Policy sustainability	.075
Geographic aspects	.056
Competitiveness	.028
HEI focus	-.009
Public commitment	-.076
Exposure and media coverage	-.095
HEI organization	-.103
Staff category	-1.078

V. Conclusion And Policy Implications

Laboratories and didactic economics results to be an important factor for the performance of the HEI, which gives the highest contribution compared to the other considered factors. This result means it should be given the proper importance of the theoretical knowledge supported through the acquisition of practical skills.

Our study argues that the HEI public commitment is very important regarding their performance. Public commitment brings the university closer to the public and society. Involvement of university academics in discussions and issues of social interest is a contribution not only in regard to assistance in solving the problem but also in transmitting a clear message about the values of the institution which represents. The factor named Exposure and media coverage adds opportunities to increase the HEI performance. Nowadays, when information technology is advancing very quickly, proper information and virtual presence of the institution is translated as a key element of performance.

The perception of HEI managers on the performance of their institution differs between public and private Albanian HEI. Their perception differ in terms of these factors: *Law and regulations*, *Autonomy*, *Staff category* and *Working experience*.

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