

Human Capital Risk Management through Quality Improvement In Higher Education: Case Study – Gjirokastra Region

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Abstract: - Human capital is the most valuable capital for any business. It is more important than money, land, or any type of investment in movable or immovable assets. Without human capital, any type of investment in business turns into something lifeless and worthless. This study attempts to show the importance of human capital and its management in business life. This paper will also highlight the importance of continuous improvement of human capital, adapting to the dynamic changes of the times we live in. For the successful processing of this paper, qualitative data collected through a structured questionnaire were used to identify the perception that businesses have regarding the importance and improvement of human capital. The data in this paper were processed with the statistical program SPSS v21, using logistic regression for qualitative data. At the end of this study, it will be found that higher education and its curricula play a very large role in improving human capital.

Key-Words: - human capital, logistic regression, management, business, qualitative data, Albania, Gjirokastra Region.

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1 Introduction

The Gjirokastra region lies in southern Albania with an area of 2,884 km² and a population of 60,013 inhabitants, of whom 25,989 are male, and 34,024 are female. Gjirokastra has the lowest youth dependency ratio (19.0 percent) and the highest elderly dependency ratio (46.1 percent) in the country. The average age of the population is 42.5 years, up from 35.3 years in 2011, [1].

In this region, the “Eqrem Çabej” University of Gjirokastra operates, offering curricula in the fields of

teaching, economics, and nursing. The majority of the human capital employed in these businesses are graduates of this university.

Since there is this close connection between the University of Gjirokastra and the businesses operating in this region, it was evident as a necessity to undertake this study to highlight the connection that exists between the improvement of higher education curricula and the improvement and better management of human capital. It should be emphasized that the improvement of curricula should aim not only at a

qualitative improvement, but also at a closer adaptation to the needs of the market. For the successful implementation of this work, the teaching programs of the University of Gjirokastra and the data collected for this purpose, with the development of the scientific research project "Market analysis and redesign of university curricula at "Eqrem Çabej" University, responding to regional developments and strengthening the third mission of the UGJ, funded by the National Agency for Scientific Research and Innovation (AKKSHI) and implemented by "Eqrem Çabej" University, were taken as a case study.

2 Research Objectives

The main objective of this paper is to identify the need for higher education curricula to be improved in order to meet the needs of the labor market as much as possible. In function of this objective and due to the logistic regression analysis, the following hypotheses have been raised:

Null hypothesis H0: Study programs at the University of Gjirokastra do not need to be adapted to the needs of the labor market.

Alternative hypothesis H1: Study programs at the University of Gjirokastra need to be adapted to the needs of the labor market.

3 Literature Review

With regard to human capital and its management, international literature is extensive and diverse, whereas the body of Albanian literature on this topic remains relatively limited. The aim of this paper is not to provide an exhaustive review of either domestic or international studies, but rather to emphasize the significance of effective human capital management for the successful performance of businesses.

People represent the primary resource of every organization. The most successful companies, as well as the most prosperous countries, are those that manage their human capital in the most effective and efficient way, [2]. Numerous definitions of human capital exist in the literature. The concept was first strongly emphasized by Theodor Shultz through his "Human Capital Theory," where he highlighted the importance of human capital and the role of education in its development. Human capital can therefore be understood as a set of skills that enhance employee productivity and that originate from, or are developed

through, formal education and training, [3]. Also, direct spending on education is a clear example of the best alternatives for employment. In this way, the quality of human capital will increase, and productivity will also improve, [4]. What Human capital theory seeks to highlight is that education is seen as an investment with benefits in the future, and its rate of return can be compared with other investments, [5].

However, the data show that education plays some role in the selection of workers, but this cannot explain all the differences in their income, [6]. Only a small extent of the relationship between higher education and higher income can be attributed to the role of education. On the one hand, mass education guided by the meritocratic perspective of capitalism has made credentialism unnecessary, and on the other hand, the production of a skilled and abundant workforce has increased the power of employers. The importance of education is emphasized as one of the three historical ways to break the vicious cycle of poverty in less developed countries, along with trauma and migration. He defines trauma as undesirable events such as wars, famines, etc., [7]. Education has also been viewed as playing an important role in helping individuals overcome poverty. One perspective emphasizes that higher education not only improves economic opportunities but also enables individuals to participate more actively in political life and advocate for broader public interests, rather than solely serving the narrow priorities of business enterprises, [8], [9]. It should be understood that the concept of education and its impact on human capital has been developed through numerous studies to see the connection that exists between the skills of individuals, their improvement, increased income and standard of living, and involvement in political and public life. Considering the development of communication skills and social interaction, the bounded rationality of individuals, improved access to economic and political participation, and the broader positive outcomes associated with education, it has been argued that these factors have contributed to a growing number of individuals pursuing higher education, a reduction in inequality, and an expansion of educational opportunities and alternatives, [10]. It should be emphasized that the literature review on this concept is extremely diverse, and it is impossible to address all theories in this paper.

4 Methodology

For the successful processing of this paper, qualitative data obtained through a structured questionnaire were used, which aimed to measure the perception of businesses in the Gjirokastra region regarding better human capital management through quality improvement in higher education. The responses to this questionnaire, which showed the perception of businesses of the concept studied, were measured using a 5-point Likert scale (1 = very bad to 5 = extremely good).

Also, the responses received were statistically processed using logistic regression due to the fact that the data collected through this questionnaire are of a qualitative nature, using SPSS v21 statistical software. For statistical processing, these questions were coded. Coding of variables is necessary to successfully process data using logistic regression. In this case, too, logistic regression will be used. As a result, the questions taken in the study and processed using logistic regression were codified as follows (Table 1).

Table 1. Coding of questions

Code	Question	Variable type
P5	What are the skills you most often look for in new employees?	Independent
P6	How do you evaluate the preparation of employees who graduated from "Eqrem Çabej" University?	Independent
P7	In which areas do you think employees who graduate from UGJ should have more training?	Independent
P12	What areas of study need to be developed further to meet your business needs?	Independent
P10	Do you think that the study programs at UGJ match the needs of the labor market?	Dependent

Source: created by the authors

Other questions in the questionnaire cannot be part of the statistical processing, because their testing has shown that they do not have any relationship with the dependent variable at satisfactory statistical reliability levels, and the regression model itself has excluded them from the study.

Even in this case, the dependent variable is of the Dichotomous type and takes values of 1 or 0 (1 = YES

and 0 = NO), while the independent variables are measured with the Likert scale.

5 Data Analysis

From the data analysis with the help of the statistical software SPSS v21, it is found that the predictive model created with the Enter method is reliable to the extent of 88.4%, Table 2 shows a satisfactory statistical relationship between the independent variables and the impact they have on the dependent variable taken into the study.

Table 2. Classification Table

Observed	Predicted		
	P10		Percentage Correct
	0	1	
0	55	4	93.2
P10 1	6	21	77.8
Overall Percentage			88.4

Source: Author's calculations using SPSS

Table 3. Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step	43.765	4	.000
Step 1 Block	43.765	4	.000
Model	43.765	4	.000

Source: Author's calculations using SPSS

As shown in Table 3, the Omnibus Test of Model Coefficients was statistically significant ($\chi^2 = 43.765$, $df = 4$, $p < .001$), indicating that the logistic regression model provides a significantly better fit than the intercept-only model.

Coefficients) shows that the χ^2 index (Chi-square) for the degree of freedom $df=4$ has a significance level of 0.000, i.e., less than the allowed significance level of 0.05. This means that statistically, this model confirms the hypothesis raised with an error of less than 5% and with a

statistical reliability greater than 95%.

Also, considering that in logistic regression, the smallest model error cannot be shown with a single coefficient, as is shown in linear regression by the least squares R^2 . For this reason, pseudo- R^2 s are used

in the logistic model, such as -2Log likelihood, Cox & Snell R^2 and Nagelkerke R^2 , Table 4.

Table 4. Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	63.258 ^a	.399	.560

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

From the data processing with the help of the statistical software SPSS, v21, using the Enter method initially, it results that the independent variables have a statistically significant impact on the prediction of the dependent variable, with each variable having a significance level lower than the allowed level of 0.05, as shown in Table 5.

Table 5. Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
P5	.133	.320	.171	1	.039	1.142
P6	2.070	.501	17.057	1	.000	7.923
P7	-.308	.364	.714	1	.028	.735
P12	.462	.154	8.981	1	.003	1.588
Constant	-9.433	2.332	16.364	1	.000	.000

a. Variable(s) entered on step 1: P5, P6, P7, P12.

Source: Author's calculations using SPSS.

This means that these variables have a level of prediction and statistical reliability up to the 95% limit. Consequently, these variables serve to build the logistic regression equation (1) as follows:

$$\ln \frac{p}{1-p} = -9.433 + 0.133P5 + 2.070P6 - 0.308P7 + 0.462P12 \quad (1)$$

As can be seen from the statistical interpretation, it is noted that the UGJ curricula should be adapted and improved, which, according to businesses, should aim to improve students' skills to work in the labor market by targeting areas such as economics, information technology, teaching and education, foreign languages, tourism, etc.

Since all coefficients B of the equation are different from 0, it can be said that the hypothesis H1

is statistically tested and accepted. So, from this statistical analysis, it results that the hypothesis raised in this study is acceptable and statistically tested with a statistical reliability level of up to 95% (significance level <0.05).

Analysis of Individual Predictor Effects

To assess the magnitude and direction of the influence exerted by each independent variable on the dependent variable, the estimated odds ratios are examined, [11]. These are reported in the regression output as Exp(B). The odds ratio represents the change in the odds of the dependent variable occurring for a one-unit increase in an independent variable, assuming all other independent variables remain constant.

Based on the results presented in the table, the following interpretations can be made:

P5 (Employee skills): An Exp(B) value of 1.142 indicates that a one-unit improvement in employee skills increases the odds that a business perceives the study programs of the University of Gjirokastra (UGJ) as needing adaptation (P10) by approximately 14.2%, holding all other variables constant.

P6 (Employee preparation): An Exp(B) value of 7.923 suggests a strong positive effect. Specifically, a one-unit increase in the perceived level of employee preparation increases the odds that businesses believe UGJ study programs require adaptation by nearly 7.9 times, *ceteris paribus*.

P7 (Fields of graduation): An Exp(B) value of 0.735 implies a negative association. A one-unit increase in the evaluation of graduation fields reduces the odds that businesses consider UGJ study programs in need of adaptation by approximately 26.5%, holding other factors constant.

P12 (Fields of study): An Exp(B) value of 1.588 indicates that a one-unit increase in the assessment of study fields raises the odds that businesses perceive the need for adaptation of UGJ study programs by about 58.8%, assuming no change in other independent variables.

Correlation analysis

As in the case of the analysis of qualitative data from the questionnaire addressed to students, in this case, it is also important to study the correlation relationship of the variables of the questionnaire addressed to local businesses in the Gjirokastra region.

According to Table 6 in Appendix, it is evident that in most of them, the predictor variables present

correlational relationships with a very good significance level ($\text{Sig} < 0.01$) or good significance level ($0.01 < \text{Sig} < 0.05$). This means that they influence each other and have great statistical significance in the logistic regression equation and in predicting the chance of the event occurring, [12]. From the analysis of the correlation coefficients according to Table 5, it results that:

Variable P4 (time of business activity) is strongly correlated with variable P3 (number of employees) at a significance level of less than 0.01, i.e., at 99% confidence levels, which means that the more years a business has been in the market, the more likely it is to increase the number of its employees. There is also a negative correlation with variables P10 (adaptation of programs) and P12 (fields of study that need to be developed more) at a significance level of less than 0.01, i.e., at 99% confidence levels. This means that the more years a business has been in operation, the more it perceives the need to change and improve the programs and fields of study from which UGJ students graduate.

Variable P3 (number of employees) is negatively correlated with variable P5 (skills that new employees should most often have) at a significance level of less than 0.01, i.e., at 99% confidence levels, meaning that the smaller the number of employees in a business, the more specific skills the business requires from the employee.

There is a positive correlation at a significance level of less than 0.01, i.e., at 99% confidence levels, between variable P5 (skills most frequently required in new employees) and variable P7 (areas where employees graduated from UGJ should have more training). This means that the business has correctly identified its needs, the skills that new graduates should have, and the areas of study where UGJ should improve. There is a good positive correlation between variable P10 (do the study programs at UGJ match the labor market) and variable P12 (areas of study that need to be developed more to meet the needs of the labor market), at a significance level of less than 0.01, i.e., at 99% confidence levels. This means that UGJ must develop more fields of study, such as economics, natural sciences, education and teaching, foreign languages, information technology, and tourism, to match the needs of the labor market.

6 Conclusions and Recommendations

At the end of this paper, several important conclusions emerge, such as:

- Businesses increasingly require employees with a high level of education
- Businesses increasingly see the need for close partnerships with universities, demanding from them an improvement of educational curricula in accordance with the demands of the labor market.
- Businesses increasingly require universities to include in their curricula not only theoretical, but also practical preparation for students.
- With the rapid development of information technology and significant structural changes in the economy, businesses require universities to include in their curricula as much information as possible regarding these areas.

This research also provides some recommendations for higher education in Albania, which:

- Should increase and implement the restructuring of professional practices during the years of study, aiming to narrow the gap between theoretical training and real job requirements.
- Should update curricula with contemporary topics, such as artificial intelligence, digital technologies, and tourism management.
- Should strengthen the competitiveness of students in the local market and beyond.
- In addition, the integration of group projects, laboratory assignments, and interdisciplinary training would foster communication and collaboration skills, which businesses consider crucial.
- Cooperation programs can be created between universities and the business community, where companies offer internships, temporary jobs, and joint research projects. For example, an “Advisory Council” with representatives of industry and public institutions can help identify specific training needs and provide suggestions for adapting curricula.
- Also, the tourism, services, and ICT sectors can promote pilot projects with university students to develop innovative products, while meeting concrete market needs.
- With the public sector, access to the administration or local institutions for internships and practices would enable a more in-depth preparation in legal and administrative aspects, especially for students of public administration or economics.

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APPENDIX

Table 6. Correlations

		P4	P3	P5	P6	P7	P10	P12
P4	Pearson Correlation	1	.437**	-.176	-.206	.031	-.295**	-.434**
	Sig. (2-tailed)		.000	.105	.056	.778	.006	.000
	N	86	81	86	86	84	86	86
P3	Pearson Correlation	.437**	1	-.289**	-.060	-.218	-.132	-.342**
	Sig. (2-tailed)	.000		.008	.591	.050	.234	.002
	N	81	83	83	83	81	83	83
P5	Pearson Correlation	-.176	-.289**	1	.074	.508**	-.026	.041
	Sig. (2-tailed)	.105	.008		.493	.000	.811	.705
	N	86	83	88	88	86	88	88
P6	Pearson Correlation	-.206	-.060	.074	1	-.035	.570**	.169
	Sig. (2-tailed)	.056	.591	.493		.750	.000	.115
	N	86	83	88	88	86	88	88
P7	Pearson Correlation	.031	-.218	.508**	-.035	1	-.188	-.189
	Sig. (2-tailed)	.778	.050	.000	.750		.083	.082
	N	84	81	86	86	86	86	86
P10	Pearson Correlation	-.295**	-.132	-.026	.570**	-.188	1	.461**
	Sig. (2-tailed)	.006	.234	.811	.000	.083		.000
	N	86	83	88	88	86	88	88
P12	Pearson Correlation	-.434**	-.342**	.041	.169	-.189	.461**	1
	Sig. (2-tailed)	.000	.002	.705	.115	.082	.000	
	N	86	83	88	88	86	88	88

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Author's calculations using SPSS

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

- **Eduina Guga** was responsible for the conceptualization of the study and the overall coordination of the research. She contributed to the formal analysis, investigation, validation, and visualization of the results. She also led the preparation of the original draft of the manuscript and participated in the review and editing process.
- **Lorenc Kociu** was responsible for the statistical analysis of the data. He contributed to data processing, interpretation of statistical results, and validation of the analytical methods used in the study.
- **Klaviara Dudumi** contributed to the collection and organization of primary data and supported the analysis of curricula related to the study topic. She also assisted in the investigation phase and contributed to the preparation of the research materials used in the study.

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Conflict of Interest

The authors have no conflicts of interest to declare.

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