

THE ROLE OF VOCATIONAL EDUCATION AND TRAINING AND HUMAN RESOURCES DEVELOPMENT IN BULGARIA'S ECONOMIC GROWTH

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ABSTRACT

Vocational education and training is a major engine for the economic growth of a country by developing skills that provide individuals with the opportunity to find skill-related jobs. Also, human resource development plays an essential role in the development of an adaptable and skilled workforce to drive innovation and economic growth. Taking these concepts into account, our article focuses on the role of vocational education and training and human resources development in economic growth in Bulgaria. We performed linear regressions using IBM SPSS Statistics to test the hypotheses deduced from literature. The results show that vocational education and training and human resource development have a positive influence on the economic growth of Bulgaria. Furthermore, vocational education and training plays a crucial role in the development of human resources to increase financial performance and competitiveness in a national economy. In conclusion, it can be stated that economic growth indicators, such as labor productivity, the increase in the employment rate, and the decrease in the poverty rate, depend on the quality of human resources.

KEYWORDS: *vocational education and training, human resources development, economic growth.*

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1. INTRODUCTION

In a society dominated by global workforce migration (Jackson, 2023), a continuously changing labor market (Michels & Murphy, 2021), and technological breakthroughs (Mahardhani, 2023), a nation's economy tends to consider human resources as a driver to economic growth. Transformation of the market environment in specialized labor markets requires a qualified workforce with a high level of skills acquired through diversified vocational education, which represents the key to economic and professional development (Mouzakitis, 2010). Undoubtedly, vocational education and training is an important player in the economic growth of a state by developing human resources and increasing the employment rate. In developing countries, technical and professional training of human resources is an essential factor for economic growth, being the solution to problems such as high school dropout rates and low performance records of general education (Bhurtel, 2015). Therefore, vocational education and training institutions provide a skilled and productive workforce that gives graduates access to stable and well-paid jobs, helping to increase the employment rate, especially in rural areas.

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Besides the providers of vocational education and training, organizations need to adapt their strategy for recruitment, selection, hiring, and training human resources qualified to respond to labor market challenges. On other hand, the organizational management should adopt efficient management practices for the development of human resources in order to obtain high-performing specialists who achieve performance objectives (Alkhalailah & Mjlae, 2023).

The purpose of this research is to investigate the role of vocational education and training in developing human resources for economic growth in Bulgaria. To achieve the research purpose, hypotheses, which show the influence of vocational education and training and the human resources development on economic growth, were tested.

Our paper is structured as follows: literature review and hypotheses development including theoretical approaches about vocational education and training and human resources development and their benefits for economic growth, methodology, results and discussions and conclusions.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Vocational education and training

Vocational education and training (VET) is an essential component of the educational system that prepares human resources for the needs of the labor market. Training of human resources within VET contributes to increasing productivity, improving the efficiency and competitiveness of the organization, which leads to the elimination of inequalities in the labor market, to the decrease of the unemployment rate, and to economic growth (Lee et al., 2020). To develop a competent human resource, VET institutions must implement competence-based education in such a way as to provide students with lifelong learning skills. Furthermore, within the VET programs, the demands of the labor market represent the main element in curriculum design, and educational management works to implement human resource policies to attract, develop, and reward teachers for school performance (Runhaar & Runhaar, 2012). Thus, the need to adapt the educational system to the living professional reality is identified, especially in the context where professional training studies become alternatives to university studies. Motivation for choosing vocational training consists in quick insertion on the labor market and the concordance between the available positions and their academic training (Vinader-Segura et al., 2021).

Stracke (2011) considers four main stakeholders in vocational education and training: managers, responsible for hiring skilled employees and instituting human resources development programs, VET providers, which adapt their curricula to the needs of organizations for an appropriate offer, learners who are open to invest in their personal development anytime, and finally, the organizations with purposes such as developing their own competence models due to their specific needs.

Vocational training is considered relevant for economic competitiveness and the fight against poverty. Low- and middle-income countries have positively perceived the link between vocational and technical education and reducing unemployment by harnessing employment opportunities for individuals with relevant skills (Tripney et al., 2013). Therefore, it is necessary to establish sustainable cooperative relationships between companies and vocational schools to create a balance between the demand for qualified employees and the existing supply. In this sense, the main concern of vocational education must be the efficient and timely supply of qualified graduates to companies (Yang, 2023).

A graduate's transition to the labor market is closely related to the form of education he has completed. At the European level, the successful professionalization of future workers is identified as the main target of the educational systems. In this sense, most states focus on the insertion of technological education graduates on the labor market (Koiliias et al., 2011).

The main purpose of vocational training is to develop a skilled workforce that contributes to economic and financial growth. A qualified employee is represented by a human resource with professional skills, who respects moral rules, hardworking and creates added value in the company and in the country where they work (Kibrit, 2022). Therefore, the first hypothesis will be:

H1a. Vocational education and training (VET) has an influence on economic growth at organizational level.

H1b. Vocational education and training (VET) has an influence on economic growth at national level.

2.2 Human Resources Development

Human resources represent an essential part of the organization to adapt to the Industrial Revolution 4.0 and contribute to the effective functioning of the organization (Kareem, 2019). Human resource management is the main driver of technological development, from the recruitment process to the retirement of employees. An effective coordination of human resources together with supply, production, and service activities leads to the expected economic results (Jatobá et al., 2023). The HR strategy involves carrying out activities related to human resources recruitment, selection, hiring, and training to improve organizational effectiveness and efficiency, as well as organizational culture and resistance to labour market challenges (Judijanto et al., 2023).

Human resource development (HRD) is a relatively new concept in academia and professional practice. Organizations' desire to be competitive and to face the challenges of the business environment has led to increased interest in human resources (Kareem, 2017). HRD represents an activity that aims to develop knowledge, acquire new skills, and work competencies through training and talent development practices (Kareem, 2019), career development (Chagelishvili et al., 2023) and organizational development. Wang et al. (2017) states that HRD is a long-term process that considers the development of knowledge, expertise, workers productivity, and their satisfaction in work gaining personal or organizational benefits.

HRD plays a crucial role in developing an adaptive and skilled workforce, driving employee resilience, innovation, and economic growth (Dahiya et al., 2023). HRM practices such as human capital planning, recruitment and selection, development and training, employee appraisal, and reward have a major impact on employee performance (Alkhalailah & Mjlae, 2023). For organizations, human resources represent a decisive factor in achieving organizational performance and their HR policies must be integrated in job satisfaction, commitment, and organizational culture to improve economic results (Kareem, 2019). Furthermore, HRD involves the existence of training and development programs to improve the knowledge, abilities, and competencies of human resources (Dahiya et al., 2023). By adopting measures to develop skills, encourage teamwork, and an appropriate compensation and promotion system, HRD contributes to originality, creativity, and innovation among employees (Kahfi, 2022).

Considering the aspects that HRD encompasses, it is an essential part of the organization's strategy that must be prioritized to ensure skilled and adaptable employees who can achieve performance in today's competitive environment (Judijanto et al., 2023). A well-educated workforce has always an essential contribution to technological breakthroughs, innovation, and economic growth. Therefore, the second hypothesis will be:

H2a. Human resources development (HRD) has an influence on economic growth at organizational level.

H2b. Human resources development (HRD) has an influence on economic growth at national level.

Besides the purpose of identifying the impact of VET and HRD on economic growth, we aim to determine the position of VET in relation to the HRD. Thus, our third hypothesis will be:

H3. Vocational education and training (VET) has an influence on human resources development (HRD).

3. RESEARCH METHODOLOGY

The purpose of this research is to show the role of vocational education and training in developing human resources for economic growth in Bulgaria. In order to achieve this purpose, a questionnaire was used as a research tool, which included scales that measured vocational education and training and human resources development, as well as the indicators of economic growth at organizational level and national level.

The items were designed on Likert scale of 1 (strongly disagree) to 5 (strongly agree) (Joshi et al., 2015). The first construct, *vocational education and training*, included five items such as "Students acquire new knowledge, specific skills and work competencies", "Students have opportunities for rapid insertion on the labor market" (Vinader-Segura et al., 2021), "Students have expertise in their chosen field, contributing to increased productivity". The second construct, *human resources development*, was also designed with five items like "An activity that aims to develop knowledge, acquire new skills, and work competencies" (Kareem, 2019), "An essential part of the organization's strategy that must be prioritized to ensure skilled and adaptive workforce" (Judijanto et al., 2023), "A long-term process that considers the development of knowledge, expertise, workers productivity" (Dahiya et al., 2023). The indicators of economic growth were divided into two categories: *at organizational level* which included employee resilience/ organizational culture (Judijanto et al., 2023), increasing work productivity, organizational effectiveness and efficiency (Jatobá et al., 2023), and innovation (Kahfi, 2022) and *at national level* were included indicators such as decrease in the unemployment rate (Lee et al., 2020), decrease in the poverty rate and economic competitiveness (Tripney et al., 2013). The last part of the questionnaire was the demographic section of the respondents.

This research was carried out between July and August 2024 in Bulgaria. The questionnaire was created on the Google Forms platform and shared among 210 academic workers in the biggest non-capital university in Bulgaria, "St. Cyril and St. Methodius" University of Veliko Tarnovo. We collected 54 responses. The authors chose the above-mentioned target respondents with the idea that namely academics and lecturers form the workforce of a country, applying different teaching and methodology models. Inevitably, they also use practice-based learning and training in the process of supplying vocational education. In this way, the responses collected were automatically introduced into a database which allowed the processing of the data using statistical software.

Data analysis was performed using IBM SPSS Statistics 30.0 (IBM Corp. Released, 2024) for descriptive statistics and linear regression. In order to test the hypotheses, we considered the economic growth (EG) as a dependent variable and vocational education and training (VET) and human resources development (HRD) as independent variables.

4. RESULTS AND DISCUSSIONS

The research sample is structured according to age as follows: 38.9% are respondents between 35 and 44 years old, 35.2% of respondents are between 45 and 54 years old and 14.8% are respondents between 25 and 34 years old. According to professional status, the most of them are employees (79.6%) and the others are entrepreneurs (7.4%), freelancer (7.4%), or students (3.7%). Regarding educational level, the most of them are doctoral degree (68.5%), followed by master degree (22.2%) and bachelor degree (9.3%).

Before testing the hypothesis, were performed the descriptive statistics of research variables and the internal consistency of scales using the Cronbach Alpha coefficient, which had values above the accepted threshold of 0.7 (Popa & Ștefan, 2019). The results of descriptive statistics and the reliability analysis are presented in Table 1.

Table 1. Descriptives statistics and Cronbach Alpha Coefficients

Items		Mean	Standard Deviation	Cronbach ALPHA
	Vocational Education and Training			
VET1	Students acquire new knowledge, specific skills and work competencies.	4.35	0.83	0.892
VET2	Students develop their ability to adapt to tasks and responsibilities of the workplace.	4.17	0.69	
VET3	Students are prepared for the qualifications required by the labor market.	3.93	0.97	
VET4	Students have opportunities for rapid insertion on the labor market.	3.78	0.95	
VET5	Students have expertise in their chosen field, contributing to increased productivity.	3.81	0.93	
Human Resources Development				
HRD1	An activity that aims to develop knowledge, acquire new skills, and work competencies.	4.31	0.86	0.860
HRD2	A long-term process that considers the development of knowledge, expertise, workers productivity.	4.30	0.79	
HRD3	It involves the existence of training and development programs to improve the knowledge, abilities, and competencies of human resources.	4.37	0.73	
HRD4	An essential part of the organization's strategy that must be prioritized to ensure skilled and adaptive workforce.	4.46	0.69	
HRD5	A decisive factor in achieving organizational performance.	4.28	0.74	
Economic Growth - organizational level indicators				
EG1	employee resilience/ organizational culture	4.15	0.79	0.868
EG2	increasing financial performance	4.17	0.77	
EG3	increasing work productivity	4.37	0.59	
EG4	innovation	4.31	0.72	
EG5	organizational effectiveness and efficiency	4.35	0.70	
Economic Growth - national level indicators				
EG6	decrease in the unemployment rate	4.09	0.76	0.846
EG7	decrease in the poverty rate	4.06	0.79	
EG8	decrease of inequalities in the labor market	3.93	0.93	
EG9	increase financial performance	4.09	0.78	
EG10	economic competitiveness	4.24	0.85	

Source: authors using IBM SPSS

As can be observed in table 1, regarding to VET variable, the respondents appreciated to the greatest extent the fact that in vocational education (1) students acquire new knowledge, specific skills and work competencies (M = 4.35; SD = 0.83), (2) students develop their ability to adapt to tasks and responsibilities of the workplace (M = 4.17; SD = 0.69).

On the other hand, regarding to HRD variable, the respondents occur to the greatest extent the fact that Human Resources represents (1) an essential part of the organization's strategy that must be prioritized to ensure skilled and adaptive workforce (M = 4.46; SD = 0.69) and also, it involves the existence of training and development programs to improve the knowledge, abilities, and competencies of human resources (M = 4.37; SD = 0.73).

Moreover, regard to indicators of economic growth, the respondents appreciated to the greatest extent work productivity ($M = 4.37$; $SD = 0.59$), organizational effectiveness and efficiency ($M = 4.35$; $SD = 0.70$) and economic competitiveness ($M = 4.24$; $SD = 0.85$).

To test the first hypothesis, we performed two linear regressions, one to analyze the influence of VET on EG at the organizational level (*H1a*) and the other to analyze the influence of VET on EG at the national level (*H1b*), the results of which are presented in Table 2.

Table 2. Influence of VET on EG at organizational level vs. national level

Variables	EG organizational level							
	B	β	t	p	CI 95%		Collinearity	
					Lower	Upper	Tolerance	VIF
Constant	3.334		7.807	0.000	2.477	4.191		
VET	0.234	0.295	2.229	0.030	0.023	0.444	1.000	1.000
R Square	0.087							
F / Sig. F	4.968 / 0.030							
Variables	EG national level							
	B	β	t	p	CI 95%		Collinearity	
					Lower	Upper	Tolerance	VIF
Constant	2.709		5.913	0.000	1.790	3.628		
VET	0.342	0.389	3.045	0.004	0.117	0.568	1.000	1.000
R Square	0.151							
F / Sig. F	9.269 / 0.004							

Note: B - Unstandardized coefficient; β - Standardized coefficient; t - Value of the t test; p – the probability of t; CI 95% - Confidence interval; VIF - variance inflation factor; R Square - coefficient of determination; Sig. F - the probability of F

Source: authors with IBM SPSS

Both regression models are valid because the F-test probability is less than 0.05 ($F_{(1,52)} = 4.968, p < .05$) and ($F_{(1,52)} = 9.269, p < .05$), therefore *H1a* and *H1b* were supported. According to the coefficient of determination R Square ($R^2=0.087$) it can be stated that 8.7% of the variance of economic growth can be explained by VET at the organizational level.

Table 3. Influence of HRD on EG at organizational level vs. national level

Variables	EG organizational level							
	B	β	t	p	CI 95%		Collinearity	
					Lower	Upper	Tolerance	VIF
Constant	2.430		4.710	0.000	1.395	3.466		
HRD	0.424	0.447	3.601	0.001	0.188	0.660	1.000	1.000
R Square	0.200							
F / Sig. F	12.968 / 0.001							
Variables	EG national level							
	B	β	t	p	CI 95%		Collinearity	
					Lower	Upper	Tolerance	VIF
Constant	1.851		3.302	0.002	0.726	2.976		
HRD	0.513	0.487	4.018	0.000	0.257	0.770	1.000	1.000
R Square	0.237							
Sig. F	16.144 / 0.000							

Note: B - Unstandardized coefficient; β - Standardized coefficient; t - Value of the t test; p – the probability of t; CI 95% - Confidence interval; VIF - variance inflation factor; R Square - coefficient of determination; Sig. F - the probability of F

Source: authors with IBM SPSS

Furthermore, the influence of VET on EG is greater at the national level, according to the coefficient of determination R Square ($R^2=0.151$) which shows that 15.1% of the variance of economic growth can be explained by VET. The greater impact of vocational education and training on economic growth in the society in which it had developed reflects that a qualified workforce and development of skills and competencies represent a competitive edge in a developing economy such as Bulgaria's economy (Petrova, Tepavicharova, & Dikova, 2018).

In the mirror with first hypothesis, we performed two linear regressions for analyzing the influence of HRD on EG at organizational level (*H2a*) and the influence of HRD on EG at national level (*H2b*), which results are presented in Table 3.

It can be seen in Table 3, the regression models are valid because the F-test probability is less than 0.05 ($F_{(1,52)} = 12.968, p < .001$) and ($F_{(1,52)} = 16.144, p < .001$) which shows that human resources development has a major positive impact on economic growth. At the organizational level, according to the coefficient of determination R Square ($R^2=0.200$) it can be stated that 20% of the variance of economic growth can be explained by HRD, while at the national level the coefficient of determination R Square ($R^2=0.237$) shows that 23.7% of the variance of economic growth can be explained by HRD. Therefore, *H2a* and *H2b* were supported according to Todorov & Durova (2016), who states that one of the factors that influence economic growth is the quality of its human resources. In addition to vocational education and training, human resources development contributes to a greater extent to the achievement of economic growth indicators at the national level such as the decrease in the unemployment rate, the decrease in the poverty rate, the decrease in inequalities in the labor market, the increase in financial performance, economic competitiveness. Subsequently, we have seen the importance of these two factors in economic growth, we have analyzed the relationship between them through a linear regression, where HRD was the dependent variable and VET was the independent variable (*H3*). The results are presented in Table 4.

Table 4. Influence of VET on HRD

Variables	Human Resources Development							
	B	β	t	p	CI 95%		Collinearity	
					Lower	Upper	Tolerance	VIF
Constant	2.354		6.213	0.000	1.594	3.115		
VET	0.497	0.595	5.338	0.000	0.310	0.683	1.000	1.000
R Square	0.354							
F / Sig. F	28.494 / 0.000							

Note: B - Unstandardized coefficient; β - Standardized coefficient; t - Value of the t test; p – the probability of t; CI 95% - Confidence interval; VIF - variance inflation factor; R Square - coefficient of determination; Sig. F - the probability of F

Source: authors with IBM SPSS

The regression model is valid because the F-test probability is less than 0.05 ($F_{(1,52)} = 28.494, p < .001$) and according to the coefficient of determination R Square ($R^2=0.354$) it can be stated that 35.4% of the variance of HRD can be explained by VET. This fact confirm that vocational education and training plays a crucial role in the development of complete human resources (Ichwanto et al., 2020). Furthermore, Bhurtel (2015) states that VET is the key factor in economic growth at the national level through the development of the workforce and increasing competitiveness.

Therefore, the high qualifications and development of skills and competences achieved through VET programs lead to educational policies which could become a facet of economic growth, most notably sustainable economic growth.

5. CONCLUSIONS

Our research aimed to study the role of vocational education and training and human resources development in Bulgaria's economic growth. The results highlighted that vocational education and training has a small positive influence on organizational economic indicators, while it has a greater positive impact on economic growth indicators at the national level. Regarding human resources development, its influence on economic growth follows the same pattern, such as vocational education and training. It has a small positive impact on economic growth at the organizational level, while at the national level it has a greater influence.

Therefore, in vocational education, students acquire new knowledge, specific skills, work competencies, and develop their ability to adapt to tasks and responsibilities of the workplace which represent educational policies and lifelong learning abilities. Furthermore, human resources development represents an essential part of the organization's strategy that must be prioritized to ensure a skilled and adaptive workforce and also it involves the existence of training and development programs to improve the knowledge, abilities, and competencies of human resources. These elements represent the main engines in terms of rate of the economic growth for all countries. Moreover, the most important indicators of economic growth, such as work productivity, organizational effectiveness and efficiency, and economic competitiveness, depend on the quality of human resources and their engagement in achieving organizational objectives. In conclusion, we can state that the development of human resources and the creation of competitive and innovative products at the organizational level contribute to higher labor productivity and increased financial performance in the Bulgarian economy.

Taking into account the results of our paper, a series of implications can be identified for the growth of Bulgaria's economy such as *educational institutions* need to pay a great attention to the insertion of vocational education graduates into the labor market, and to adapt their curricula to the needs of organizations for the concordance between the available positions and their academic training, *organizations* must integrate human resources policies in job satisfaction and organizational culture to improve economic results and develop training programs to improve the knowledge, abilities and competencies of human resources.

The limitations of our research are represented by the difficulty in collecting a necessary number of answers for the sample to be representative, and the results can be extended to the country level. Considering these, for future research, we recommend to extend the investigation in other fields and to consider an analysis of vocational education and training and human resources development according to income level, education level and length of service.

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