
THE ROLE OF HUMAN CAPITAL IN GAINING AND SUSTAINING COMPETITIVE ADVANTAGE OF COMPANIES

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Abstract: In today's global competitive arena the term "knowledge economy" is no mere slogan. It points to the very real fact that economic activities are increasingly knowledge intensive and that in this globalized world, success will come to those that are able to generate and harness knowledge in order to stay ahead of the pack. Research shows that in economies that do not have sufficient infrastructure, natural resources or may be designed as high cost base locations, comparative advantage has shifted to knowledge-based activities that cannot be transferred around the world without a significant cost. High knowledge and skills based economies will most likely be able to attract and retain investments in industries with a strong future. It is no secret that good education lies at the heart of economic growth and development. At the same time, improving the quality and relevance of education is enormously difficult not least because there is no one single policy measure that will do so effectively.

Macedonia is not exclusion to this fact. The Macedonia's employers and employees face a huge talent management dilemma. Analyses by all relevant institutions (World Bank, NGOs) and interviews with multiple representatives from the private sector companies indicate that while the labor pool is growing (supply side), it does not provide the skills needed by employers (demand side) so, that they could be competitive and further grow in today's market. Employers are nearly unified in their criticism of an education system that produces graduates with limited practical experience and no soft skills transferable to the workplace. This is largely due to a lack of experiential education, competency based curricula, pragmatic guidance, which fails to meet the needs of the business community. The burden falls most often on employers to provide practical training, usually on the job. While in-company training is good practice, the scale of the skill gap requires a cost and internal training capability that many enterprises cannot afford, creating a disincentive for businesses to hire new employees.

The dilemma has impacted job seekers (official unemployment in Macedonia is around 28% as of December 2017) and contributes to lower overall economic growth. It is especially problematic for micro and small enterprises (MSEs), which make up a large proportion of employment in Macedonia. MSE size and limited capacity makes their employees skills, experience and multitasking capabilities that much more critical for growth. Additionally, MSEs often lack the resources necessary to effectively train and maximize the productivity of their staff. As a result, sustained employment growth within Macedonia must include the development of a pipeline of skilled employees for microenterprises, including bolstering the capacity of small businesses to organize and train their workers. On the other side, the formal education institution dislike they way the private sector manages their employees. According to many of them, this is due to the fact that companies believe that their performance in the market is not directly linked with the human capital performance. In addition, education holds to the belief that private sector companies are not engaged enough in creating the next pool of talents in Macedonia. When they are invited to participate in the classrooms as expert of guest speaker, hire or engage students they show little interest. To conclude, the education institution believes that private sector companies in Macedonia consider the investment in human capital as a cost and not an investment.

Keywords: human capital, competitive advantage, training and qualifications, skills and competencies, recruitment of employees, business- education partnerships,

I. INTRODUCTION

Human capital is becoming increasingly important for the fact that many countries that have limited natural resources rely on their human capital as a main source for competitive advantage over the other countries that are richer with these resources. The same goes for private companies, which have understood, that the most important factor to bring you on the top and keep you there is by investing in human capital; in the competencies, skills and knowledge of their employees. Companies that refuse to accept this fact are destined to fail especially in the economic model we are currently living that is becoming increasingly knowledge driven.

According to OECD definition "*knowledge-based economies*" focus directly on the production, distribution and use of knowledge and information. This is reflected in the trend in OECD economies towards growth in high-technology investments, high-technology industries, more highly skilled labor and associated productivity gains. Although knowledge has long been an important factor in economic growth, economists are now exploring ways to incorporate more directly knowledge and technology in their theories and models. "*New growth theory*" reflects the

attempt to understand the role of knowledge and technology in driving productivity and economic growth. In this view, investments in research and development, education and training and new managerial work structures is the key of economic development not only of the companies but of the countries as well.

Countries that invest in human capital introduce such policies that encourage companies to do so. This is the time when the world competes based on innovations reflected by the number of patents and inventions they do, R&D departments and new processes they create. Only those that will continuously innovate will stay in the market and the rest will have to follow them or will struggle in surviving this global competition. This is the time of knowledge-based organizations. But according to the theory which company is a knowledge-based organization? These are usually described in terms of the knowledge intensity of their product or service. The greater degree to which knowledge forms the core of the product or service, the more knowledge-based is the organization. However, using products or services as a means for categorizing or defining the knowledge-based organization is inadequate. Products and services reflect only the observable and tangible parts of an organization. The primary resources that enable an organization to produce are hidden within the so-called “invisible assets” of the organization (Itami 1987) – its knowledge about what it does, how it does what it does, and why.

The characteristics of a Knowledge Based Organizations (KBO) go beyond product to include process, purpose and perspective. Process refers to the activities within an organization, some of which are directly involved with producing a product or service and others that are ancillary but no less important. Purpose refers to the mission and strategy of the organization – how it intends to profitably provide products and services to its customers. Perspective refers to the worldview and culture that influences and constrains the decisions and actions of an organization, including how it views itself and its strategic mission. Each of these forms a basis for evaluating the degree to which knowledge is an integral part of the organization and the way it competes.

II. THEORETICAL BACKGROUND AND HYPOTHESIS

H1: There is a strong correlation between the investment in human capital and company's performance.

Literature shows various findings about the relationship between human capital practices and organizational performance. For example, Katou and Badhwar (2006) identified recruitment, training, promotion, incentives, benefits, involvement and health and safety as HR practices which influenced performance. Lee and Chee (1996) on the other hand found no conclusive proof, which would support that link. However, Bae and Lawler's (2000) study contradicted this and Huselid (1995) suggested that the link may be confined to certain “High Performance Work Practices” which he identified as including selection strategies and processes, incentive options, robust staff evaluation and management systems, and extensive involvement and staff development. Boselie, Dietz and Boon conducted an important meta-analytical study in 2005. They analyzed the reported outcomes of 104 empirical articles published within a 9-year time period. Their findings demonstrated a range of different results and generally a lack of clear definition of the concepts and theories, which the publications were attempting to address. To conclude, this implies that there is a need to investigate the reasons behind the variation in findings that the previous studies demonstrate regarding the link between HRM practices and performance. According to Bosilie et al. (2005), the huge variety of methods used for measuring HRM performance means it is impossible to compare results from different studies (making meta-analytical studies very difficult to conduct). Conclusions of different studies are still unclear. Findings are limited by the methodologies used; variation in consideration of potentially decisive variables, some of which may have been omitted, or causality cannot properly be inferred as most studies have been cross-sectional and confined to fairly narrow correlations.

H2, the companies consider that the skills and competencies of their employees are more important than their formal qualifications

There are three labor market ramifications of the shift in employment from routine and manual tasks towards non-routine cognitive tasks. First, employment structure changes: a growing proportion of the labor force is employed in jobs requiring higher-level, non-routine skills (see Levy and Murnane 2004). Second, wage structure changes: wage inequality rises due to an increase in the skill premium; in particular, the wage gap between low- and highly skilled workers widens. Third, unemployment rises among less-skilled workers following the elimination of routine jobs.

Technological development also spurs change in how work is organized, which itself can lead to higher-skill needs. Computer technology, for example, has contributed to the shift away from the so-called Taylorist organization of labor (characterized by mass production and bureaucratic controls) to high-performance work practices (characterized by decentralized decision-making, just-in-time operations, teamwork, and multitasking (EC 2008; OECD 1999b). U.S. data on firms that adopted information and communication technology show, for example, that increases in the demand for highly skilled workers can be attributed more to the requirements of new work organization than to the introduction of new technology itself (Breshnan, Brynjolfsson, and Hitt 2002), a process

that has been termed “skill-biased organizational change.”

H3, Training and non –formal qualification programs are important for personal and profession development of employees.

Training is important not only because it is necessary for building and maintaining an effective workforce, but also because it drives corporate well-being and provides organizations with a competitive advantage (Salas et al.). However, if **training** is to provide organizations' with a competitive advantage and improve firm **performance**, trainees must first apply and transfer what they learn in **training** on-the-job. Transfer of **training** refers to the application, generalization, and maintenance of learning, trained skills, and behaviours from the **training** environment to the work environment (Baldwin & Ford). In the real world, organizational growth and development is affected by a number of factors. In light with the present research during the development of organizations, employee training plays a vital role in improving performance as well as increasing productivity. This in turn leads to placing organizations in the better positions to face competition and stay at the top. This therefore implies an existence of a significant difference between the organizations that train their employees and organizations that do not. Existing literature presents evidence of an existence of obvious effects of training and development on employee performance. Some studies have proceeded by looking at performance in terms of employee performance in particular (Purcell, Kinnie & Hutchinson 2003; Harrison 2000) while others have extended to a general outlook of organizational performance (Guest 1997; Swart et al. 2005). In one-way or another, the two are related in the sense that employee performance is a function of organizational performance since employee performance influences general organizational performance. In relation to the above, Wright & Geroy (2001) note that the employee competencies change through effective training programs. It therefore not only improves the overall performance of the employees to effectively perform their current jobs but also enhances the knowledge, skills an attitude of the workers necessary for the future job, thus contributing to superior organizational performance.

H4: Even though there is a high unemployment rate, in specific profiles there is a difficulty in hiring skilled workforce,

Due to the shift from a more industrial society to a more knowledge-based society, the nature of the jobs and roles of the employee are changing. Jobs are becoming much more cognitively complex, and they require wider and more comprehensive set of competencies, knowledge, skills, and abilities than before. Due to the ever-changing climate and status of organizations in the information age, organizations need employees who in a way are like smart machines. They need employees who can continually learn; improve with practice; anticipate the future; effectively communicate needs, problems, and goals; remember and maintain the past; and be adaptable, flexible, and customizable. Such characteristics, while tapped in some traditional selection tools, need to be more heavily emphasized as selection criteria.

H5: The partnership between business sector and educational institutions contributes to the improvement of the quality of curricula and educational programs.

It is a problem worldwide that educational data tend to focus on quantity—for example, the number of enrolled and graduating students— and not the quality of education. Where international comparative data are available, they focus on the quality of primary or lower secondary education. Given that the current policy debate in Macedonia focuses on “skills,” the lack of data on educational quality is problematic, particularly because very few young people in Macedonia enter the labor market with only a lower secondary education. But with no international assessment of the skills and competencies of upper secondary or tertiary graduates, it is impossible to quantify the gap in competencies between recent labor market entrants of Macedonia with, let’s say, Germany. Policy makers in Macedonia are recognizing, however, that objective, standardized measures of learning outcomes are needed for a number of reasons. First, they remain the best indicator available for measuring the performance of an education system (Vegas and Petrow 2008). National and international learning assessments provide policy makers a quantitative indicator of learning outcomes that can be compared across schools and across time. Second, standardized assessments allow students and their parents to compare a student’s performance relative to his or her peers, and a school’s performance relative to that of other schools. Third, when used alongside other indicators of performance, standardized assessments can be utilized to hold education managers and teachers accountable for results. In a decentralized education system in which local authorities play an important role in day-to-day management, such instruments are especially important for a central government to identify system needs, direct funding where it is most needed, and tailor new policies to support schools and local authorities, as needed.

III. RESEARCH METHODOLOGY

The research procedure

The sample of companies contacted by this research was 300 companies from three strategic sectors: ICT, Tourism and Agro-Business. These three sectors were chosen because of the decision of the Government of R. Macedonia to announce these three sectors as strategic ones for the economic development of the country for the period between 2012-2016 because of, as they explained in their decision, the absorption capacity for new employees, growing opportunities for companies and investment prospects of international companies in these sectors. These three sectors have around 60% of the economic output of the country, 73% of the employments and 65% of investments. With textiles and auto-motto industry they comprise almost more than 95% of the entire economy of the country. The questionnaire was distributed in such a way to represent equal portion of companies from each sector i.e. 100 companies per sector to answer the questionnaires. The questionnaire was distributed in 4 regions: first one, to companies in Western Region in participation with SEEU students, the other one in Pellagonija region in cooperation with St. Kliment Ohridski University and Business Start Up Centre Bitola, third one, in the Eastern part of the country in cooperation with Goce Dellcev University and the last one in Skopje region a survey conducted by **MyCareer and USAID Macedonia**.

In total there were more than 300 questionnaires were distributed with 298 returned back for analysis. It has to be mentioned that USAID Macedonia supported the analysis and further in-depth research of companies, which were initially contacted to analyse the skill-gaps in these sectors.

The languages of the questionnaire distributed to companies was in Macedonian and Albanian with companies choosing the language of their preference. There were at least 30 students and staff engaged to conduct the survey and collect the questionnaire. The analysis of the questionnaires was completed using STATA 12.0.

The Research Questions

The research questions are presented in this study as the basis of the research. The research questions are designed in the way to explore more in depth the relationship that exist (if exists) between the (investment) in human capital and competitive advantage of private sector companies in Macedonia. The questionnaire aims to empirically test the direct relationship that exists between these two variables. In addition, the researcher seeks to empirically observe the indirect connection, using the intermediary variables, between these two components and check if they are fully or partially connected.

The questionnaire was divided in 6 (sixth) parts. The questionnaire starts by collecting demographic data and the profile of the companies' that are part of the survey including information such as: annual revenues, percentages of exports from the total share of revenues, primary region of market, forecast of revenues for the next fiscal year and primary sector of companies. The first section includes questions about the role of human capital and current status of the workforce such as their skillset, competencies and knowledge. The section also includes the number of employees, future employment and training needs of the companies considering the primary market of the companies. The next section contains labour market dynamics. This section includes information how easy or difficult is to find the right talents, how easy/difficult is to retain the talents and the level of motivation of employees to perform specific tasks as required by the companies. The third section includes information on the job mediation. In here companies provide information on how important for them is the role of job mediators, what kind of job profiles are required by the companies and check if there are ineffective channels of recruitment. The fourth section tries to clarify how training plays into the human capital development. In this section part of the questions includes information such as: how much the companies invest in training and development of their current workforce, how the training influences the performance of the company if any and tries to understand what are the main reasons of companies not investing in training of their staff. The fifth sections gives insight on how important is the business industry-education partnership programs for the decision makers of the companies. The section includes questions on how much companies are willing to cooperate with education institutions on projects and/or programs of mutual benefits for both sides, what are some of the specific initiatives the companies would like to partner with these institutions and lastly check if the companies could recruit the right talent during the days of career fairs. The last section provides questions on the company performance. This part asks the respondents if the human capital has a role in the company performance, evaluates if the company or sector is growing as a result of appropriate human development strategies and tries to pinpoint the right practices adopted by the companies that lead to companies performance.

Surveyed companies

In total there were 310 companies contacted to answer the questionnaire from the three strategic sectors ICT (Hardware and software developers), tourism providers (Hotels, Travel agents, and hospitality companies) and Agriculture companies (food producers, food processors and food traders). Out of 310 companies contacted, 298

companies or 96% agreed to take part and answered the interview in one to one with students across the main regions of the country. The full list of the companies contacted and agreed to take part in this survey is listed as appendix at the end of this document. The three sectors were chosen on purpose because at the time of developing this PhD the government of R. Macedonia announced these three to be strategic for the country because of the growth potential, absorption capacity and the knowledge they have (ICT). Latter was added the auto-motto industry however, this industry consist mainly of foreign direct investors with no particular added value for the economy.

Statistical Techniques

This study utilizes the Structural Equation Modelling (SEM) approach with Software for Statistics and Data Science (STATA) as an analysis method. STATA has been widely used for theory testing and validation. Structural Equation Modeling is a family of statistical models, which seeks to explain the relationships among multiple variables. To put it simply, it is a combination of Multiple Regression Analysis and Factor Analysis. It is also known as ‘causal modeling’ or ‘analysis of co-variance structures’. Structural Models basically shows how constructs are associated with each other. It shows how measured variables together represent construct.

IV. INTERPRETATION OF FINDINGS

Measurement Model

First, the researcher assessed the reliability and validity of the measurement instrument using content reliability, and convergent validity criteria. The content validity of the survey instrument was established in two ways. First, the constructs along with their measures, which are used in this study, were already validated in previous studies as they were all adopted from the existing literature.

Construct	AVE	CR	Cronbach α
Human Capital (HC)	0.497	0.830	0.9080
Skills and Competencies (SC)	0.61	0.885	0.9343
Recruitment of employees (RE)	0.65	0.904	0.9409
Training and development (TD)	0.77	0.9443	0.9625
Industry- Education Partnership (IEP)	0.614	0.884	0.9473
Performance of companies (CP)	0.446	0.800	0.9045

Table 1: Reliability and Convergent Validity Test

Second, the results of the pre-test the researcher undertook with subject-matter experts assured content validity of the survey instrument. For reliability of the scale, Cronbach’s alpha, which is a common method used to measure the reliability and internal consistency of scales, was used (Cronbach, 1970; Hair et al. 2006) suggested that the reliability of the scale is generally accepted if the value of Cronbach’s alpha for each construct is equal or greater than 0.70. The constructs included within the study’s model can be seen to have exhibited a high degree of internal consistency as the values of Cronbach’s alpha ranged from 0.9045 (Performance of companies) to 0.962 (Training and development) as shown in the figure above. Composite Reliability (CR) and Average Variance Extracted (AVE) tests were conducted to measure convergent validity. Fornell and Larcker (1981) suggested that the value of CR for each construct must exceed 0.70,

Hypothesis	Beta (β)	z Value	p Value	Recommendation
<i>H1</i> : HC \rightarrow CP	0.434	1.07	0.055	<i>Accepted</i>
<i>H2a</i> : HC \rightarrow SC	0.105	1.69	0.020*	<i>Accepted</i>
<i>H2b</i> : SC CP	0.030	0.87	0.076	<i>Rejected</i>
<i>H3a</i> : HC TD	-0.222	-2.74	0.002**	<i>Accepted</i>
<i>H3b</i> : TD CP	-0.191	-2.52	0.014*	<i>Accepted</i>
<i>H4a</i> : HC RE	-0.32	-2.32	0.010**	<i>Accepted</i>
<i>H4b</i> : RE \rightarrow CP	-0.02	-3.03	0.000***	<i>Accepted</i>
<i>H5a</i> : HC \rightarrow IEP	-0.217	-2.35	0.019**	<i>Accepted</i>
<i>H5b</i> : PIA \rightarrow CP	-0.119	-1.80	0.039*	<i>Accepted</i>

which is the case here whilst the value of the AVE must exceed 0.50 for the convergent validity to be assured. The CR and AVE values for the constructs included in the study model, with one exception, are all above acceptable levels.

The results of the STATA-SEM analysis show, as in Table 1 and tab 2, the structural model estimation and evaluation of the formulated hypotheses.

Results *Tab. 2; Hypothesis testing results* indicated that Human capital has significant and direct effects on Company performance, skills and competencies, training and development, recruitment of employees and Industry-education partnership program ($\beta=0.434$, $p\leq0.0060$; $\beta=-0.222$, $p\leq0.014$; $\beta=-0.32$, $p\leq0.014$; $\beta=-0.32$, $p\leq0.010$; $\beta=-0.217$, $p\leq0.000$ respectively). Results also revealed that human capital has positive impact on the skills and competencies of employees, training and development on the company performance, recruitment of employees on

company performance and Industry Education programs on company performance ($\beta=0.105$, $p\leq 0.020$; $\beta=0.191$, $p\leq 0.001$; $\beta=-0.02$, $p\leq 0.001$, respectively).

V. CONCLUSIONS

The researcher adopted a rigorously quantitative approach to this investigation having defined a model to illustrate the links between human capital, company performance, skills and competencies, training and development, recruitment of employees and industry education partnership programs (including these mediating variables) the researcher formulated appropriate hypotheses to test these links. The hypotheses as stated above were tested and all were accepted. The researcher demonstrated not only that there is a clear link between the human capital and company performance but also the recruitment, training, skills and industry programs are all variables, which mediate that link.

This study examined the link between human capital and company performance taking into the consideration the opinion of 298 decision makers of companies in three strategic sectors.

Based on the STATA analysis, it was found that of the various factors considered in the research human capital contributes the most to university performance ($\beta=0.734$) suggesting that in the knowledge economy where Macedonia belongs as well the only long term advantage of companies is that of investing in its human capital. However, this should be matched with right recruitment strategies of future workforce. The recruitment of employees is very important factor in providing the competitive edge to private sector companies. The private sector must have the permanent look out on the talent in the market because in the global economy the ideas and the competencies of the employees are more important than other assets. Once the right profiles and qualifications are hired the company must invest in non-formal training programs so that they could develop its skills and competencies in order to perform the tasks and duties. The training of employees could be in the form of improving their technical skills or soft skills. Majority of the companies consider in the knowledge economy the soft skills are more important than the technical skills tied to the work. Additionally, the research has shown that globalization comes with the cost as well. The higher education institutions focus more on providing diplomas rather than skills and competencies of future employees. Thus, the companies consider that this additional burden for them (cost and time) and in order to get the qualified workforce they need to invest money and time for training and re-qualification program of their employees. On the other hand, the education institutions consider that the only priority of the companies are profits and that the misuse the human capital. The research has shown, therefore, that a closer cooperation must be established between the supply side (education institutions) and demand side (private sector companies) in forming and developing the human capital.

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