WORKFORCE DEVELOPMENT SKILL GAP ANALYSIS IN PELAGONIJA REGION, R. MACEDONIA

Visar Ademi
South East European University (SEEU) Tetovo, R. Macedonia, vademi@hotmail.com

Abstract: The researcher has conducted a skill gap analysis with an aim of achieving the following; (1) undertake qualitative and quantitative skills gap assessments in the Pelagonija region, (2) provide recommendations for making the University educational program more responsive to the needs of the private sector and (3) improve the cooperation between the academia and the businesses. The idea was to assist business and educational communities to use this research to make a systematic approach to addressing the skills gaps in the region. To achieve this the researcher prepared a survey/assessment analysis that focuses on workforce development in Pelagonija region, with special focus on the ICT sector and provided recommendations that are immediately implemented by the academia and the private sector to overcome some of the identified gaps. To obtain best results and get the necessary information a specific methodology was developed which included: (a) Determining target sectors though secondary research (b) Defining of survey sample, (c) Development of survey questionnaire, (d) Development of follow up interview questionnaire, (e) Training of interview implementers, (f) Implementation of survey process, and (g) Implementation of follow up interviews. There were 300 contacted companies from three selected sectors, which responded to the questionnaire and provided specific recommendation on what needs to be done so that the cooperation between academia and business community is improved. Some of the key findings from the analysis of the questionnaires are that the size of companies in Pelagonia region are small companies, majority of them employing less than 20 employees with more than 80% of them employing only full time employees with University degrees. The companies believe that current employees are missing soft skills such as (critical thinking, foreign language, customer service) with more than 20% believing that this could be improved by offering job specific trainings and introduction of new technology and management practices in the training programs. The current state of cooperation between academic institutions and business community is not satisfactory for majority of the respondents therefore they suggest new initiatives such as joint partnership programs, internship programs and other initiatives should be established so that this cooperation is enhanced. It is positive that majority of respondents (53%) believe that their company will grow in the next three years thus creating new job opportunities for new entrants in the labor market. They indicate that the number of new jobs created will be up-to 10 as a result of this forecasted growth. It is interesting to note that companies consider that job opportunities predominantly will be for sales and customer services positions and professionals (technical staff). However, the predominant part of the respondents thinks that even though these jobs will be created it is very hard to retain them meaning that the company will experience a cost of developing a professional and companies with better financial indicators will have a free ride in “stealing” these readymade professionals. The companies consider also that is very difficult to find employees in the market because of the absence of recruitment agencies and employment mediators.

Keywords: skill gap analysis, workforce development, industry-education programs, internships, training, skills and competencies,

I. INTRODUCTION

One of the biggest economic concerns in the Republic of Macedonia is the incessant high level of unemployment that for years has been above 30%. Needless to say, the country has been putting much effort in the past years on solving this issue, ensuing in some positive results that can be statistically registered with June 2018 unemployment recorded at 28.8%. Nevertheless, this is still a very high rate, especially if one takes into account the uneven dispersion of unemployment throughout the country.

Pelagonia, one of the most important regions in Macedonia has not been exempt from the mentioned “unemployment plague”. In fact according to the EU, Pelagonia has an unemployment rate of 40%. The region consists of 9 municipalities spread on an area of 4,700km² and inhabited by 238,000 people, or 11.8% of the country’s population, according to the census of 2002. Despite the low population density (50 inhabitants/km²), there is a high concentration of population in two major centers, Bitola and Prilep and a small number of other municipalities. In fact, Bitola and Prilep account for 150,000 of the regions’ inhabitants, characterizing Pelagonia with high population density in urban centers and large uninhabited agricultural and natural land. According to a EU reports, Pelagonia produces 50% of Macedonia’s tobacco and about 45% of its wheat.
As the economic situation in this region is still unfavorable, in order to reduce the unemployment rate the regions’ development plan focuses on promotion of sustainable local development. Work force development plays a big part to this. Namely, across the Balkans, industry groups and educational institutions have revealed that workforce development gaps undermine competitiveness and economic growth, especially skills mismatches and lack of capacity among government and business entities to collaborate effectively in pursuing better employment outcomes.

II. METHODOLOGY
The project methodology implemented in order to do the analysis and provide recommendations for future action was divided in five phases:

- **Secondary Data research:** collection of reports, materials, and information available on Pelagonija region, economic outlook and its workforce.
- **Primary Data Research:** this includes developing the questionnaire and
- **Interviewing:** face to face interview with anchor companies
- **Data analysis and draft report presented to stakeholders**
- **Advisory board members comments and remarks about the survey**

III. INTERPRETATION OF FINDINGS
The survey used to assess the existence and the extent of the skill gaps in the Pelagonija region was structured in a way intended to capture both quantitative and qualitative data.

**a. Company profiles**
The survey was carried out on a total of 298 companies from the selected sectors: tourism, ICT and agriculture. In terms of types of businesses, the tourism sector included: accommodation (hotels, motels, guest houses, etc.), food and beverage (cafes, restaurants, catering), transportation companies and the sales side of tourism (travel agencies and tour operators). The ICT industry included trade (retail hardware and software stores), production (outsourcing, software and content development), media and print companies, while agriculture included production (registered farms, food processing companies, etc.), sales (trading companies) and support (agricultural pharmacies, private laboratories, etc.). A category “other” was offered as a reply for companies covering multiple sectors or where respondents did not see themselves as participants in the proposed sectors (i.e. trade vs. ICT).

Of all of the respondents, 47% were from tourism, 32% from ICT, and 16% from agriculture while only 5% choose the category “others”. In terms of the profiles of the interviewees, all held senior positions with almost half of them being the owners of the companies, 33% were managers and directors while only 4% were HR managers. This is due to the structure of the Pelagonija economy (much like the whole Macedonian economy) where most of the companies are micro and SMEs and only a few are big enough to employ specifically HR managers. This is confirmed by the following question addressing the annual revenue of the surveyed companies. Only 3% of the companies stated they made annual revenue of more than 10 million USD while the majority had less than 100,000 USD (72%). In terms of market orientation, only around 20% said that they are engaged in exports while the majority (79.77%) were inward oriented and dealt only with the local market. It needs to be noted that these numbers could be skewed somewhat because they include the tourism sector. Mainly it is difficult to assess the level of export as in tourism where the provision of services to foreign tourist is the “export”. These values are hard to measure. The next couple of questions dealt with the economic reality and outlook of the interviewed companies.

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Most of the companies (75%) reported growth during average the last three years, with a total of 23% having growth higher than 10%. Considering the current economic conditions in most of Europe, this seems to be a good result. In terms of the outlook in the near future (12–36 months), the sample majority expects stabilization or growth (69% with only 3% expecting strong growth), while the rest expect a decline in business.

b. Current workforce situation

The next group of questions tried to capture the current situation with the work force engaged in the surveyed companies, both in the quantitative and the qualitative aspect. As expected, most of the companies fell in the category of micro and SMEs, which is in line with the structure of the Pelagonia industry. The majority (83%) employed up to 20 workers and only a few (1%) had between 500–1000 workers. None of the interviewed companies had more than 1000 employees. In terms of the age structure of the work force, a total of 71% were in the range of 25-44 years of age, while only 1% were above 60 years. The surveyed companies employed 58% males and 42% females.

In regards to the model under which the workers are employed, 83% are full time, 11% are part time employees while 5% are contracted and only 1% are self-employed (a new model of employment in the country). The majority of existing employees working in the surveyed companies are high school graduates (50%), followed by university graduates (38%) and vocational school graduates at 9%. It needs to be noted here that there is a relatively low level of vocational school educated workers, which could be a result of the unattractiveness or the level of quality of vocational schooling. The succeeding questions were aimed at capturing information regarding the criteria used by companies when hiring, the level of effort they put into work force development and their views in regards to what they are missing in terms of skills. Asked to rank the top three characteristics that the surveyed employers look for in their employees, most gave greatest importance to “experience”, followed by technical, soft and business skills. It is interesting to note that the level of education of the candidates was ranked last. This shows that given an infinite number of response possibilities, employers will value skills and experience over diploma.

The next question enquired about the skills and characteristics that the employers feel are lacking in their current work force. Foreign languages came in first with 12% of the employers marking it as an issue. We need to take into account that many of the respondents were from the tourism sector where knowledge of foreign languages is crucial. Also, even though English is pretty well spoken throughout all of Macedonia, the greatest numbers of tourists in Pelagonia actually come from Greece. Second with 8% was personal character while the rest of the offered skills and characteristics were spread pretty evenly. After assessing the lack of skills, the next couple of questions provoke insight into what the companies are currently doing, or are willing to do in the future to develop their work force. Unfortunately, the current level of investment in workforce development is very low. A majority of the companies answered that they did not invest at all in trainings (38%) or invested on an ad hoc basis (44%). Only 11% have regular budgeted
investments and 7% stated that they invested a lot. Not surprisingly, the main reasons for the low level of investment in work force improvement were costs. Namely, cost and lack of training subsidies (also connected to costs) were noted by 47% of the companies as the main reasons for their low level of investment in training. It is worth mentioning that a relatively high percentage (12%) of the companies stated that there is no availability of the types of trainings that they require. This potentially provokes questions about the availability, relevance and potentially, quality of the existing work force development programs and trainings that are offered in the Pelagonia market. The last question dealing with investments in work force development mostly concerns those companies that already invest in this. The question is intended to capture what kind of capacity building is needed in addition to what the companies have at the moment. Most of the replies (41%) stated they needed more job specific training, insinuating training directly connected to the companies’ work. With 19%, new technologies trainings came in second.

c. Cooperation with educational institutions

The next group of questions tries to gauge the level of success with which education meets the needs of the industry. The questions are intended to provide insight to the current state of collaboration between the educational institutions and business, as well extract potential future actions to deepen this cooperation directed at streamlining curricula to meet the needs of the industry.

One of the most interesting results of this survey was the reply to the question asking businesses how the national education system satisfies their needs. Even though a quarter of the respondents replied that it “does not meet their needs at all”, if we take into account the qualitative element of the other categories of replies, it turns out that the overwhelming majority thought that the system satisfies?! Almost half replied that it satisfies somewhat, with another quarter answering, “satisfies” and a minor portion (1%) evaluating the system as totally satisfactory. All of these answers have a positive connotation concluding that in general, the current education system, though not the best, does meet the needs of the industry.

Looking at different segments of the educational system, the companies graded elementary education and math and science education with the highest score. However, it needs to be said that the grading range is 1 – 5 and that the best scores are 2.95 and 2.96 for elementary and math and science education respectively. The quality of business schools received the lowest grade.

On a very specific question that is trying to assess the quality of cooperation between education and business, most of the companies (68%) replied bad or not good enough. This leaves no questions that there is much room for developing closer communication and collaboration between the two. As the previous question determined the need for deeper cooperation between industry and education, the next couple of questions tried to define the types of activities, which could contribute to this. Asked what they would recommend for possible future programs connecting education and industry, the majority of companies opted for internship programs (51%) while 15% would like to see activities aimed at joint development of new curricula and 10% would like to have industry experts hold lectures within the educational institutions. In terms of the willingness of the companies to engage in certain projects aimed developing cooperation with education, the results of the survey were mixed. The highest percentage (19%) would get involved in organization of joint conferences and seminars, while 16% would do joint presentations. Developing and implementing joint programs (like certification programs) and joint project proposals was chosen by 13% and 9% of the respondents respectively. A relatively high number of companies (15%) stated that they would not engage in any of the proposed activities, which leads us to conclude that either their choices were not included in the possible survey answers (internships were chosen as the favored programs in the previous question), or that they are reluctant to invest time in these types of activities.

As anticipated by the consultants, internship programs were the preferred choice by most companies hence the next group of questions tried to assess the details. A total of 67% companies said that they would engage interns if offered. The relatively high number of companies that said that they would not have interns (33%) is a result of the current gray area with the mechanisms for engaging interns. The companies especially were concerned the absence...
of a law that allows the Internship program in the companies. The average number of interns that the companies would accept at moment was 4 and the preferred average length of the internship would be 5 months. Also, 57% of companies would cover the expenses of the interns that they would engage.

The last group of questions deals with the companies’ expectations for future employees and skills needed. The initial results have some positive connotation as the majority of the companies (53%) expect the number of their employees to grow in the short term (12-36 months). As most are micro and SMEs, the number of employees expected to join the surveyed companies are mainly up to 10 (with a total of 81%). Only 2% of the respondents expect to employ more than 30 new people in the next 2 – 5 years, again coinciding with the structure of the economy. In terms of the model of employment, the companies expect 60% to be full time, while part time, seasonal and contracted labor is expected to take up 10% of the future employees. In terms of what types of positions the employers are expecting to fill, most of them are in the arena of sales and customer service (30%), professionals in the areas of work (26%) while 15% are technical positions.

The survey also looked into the mobility and availability of talented work force. In terms of staff retention, the situation is fairly even with 48% of the companies reporting issues with retaining talented employees and 52% having no difficulty with this. It seems that the majority of companies find it either very difficult or difficult to obtain employees with the required skills (a total of 74% answered in these two categories). The main issues with finding new staff seems to be in-line with the earlier responses the employers gave to questions enquiring about the characteristics that they look for in new recruits. The main issues seem to be with the experience of the potential candidates (24% response rate), followed by the number of applicants they have for their positions (19% response rate) and the attractiveness of the jobs they offer on the market (17% rate). The other responses worth noting are the lack of attitude towards work and the level of motivation in the potential candidates (10% response rate). Asked what measures would give the best effects in order to accommodate the work positions that are hardest to fill, most of the companies (35%) answered “salary raises”. This somewhat confirms that the salary levels in the region are not up to the level of effort needed to fulfill the work and that the companies know this. Some deductions regarding the level of productivity and profit margins can be made based on these results. Other replies worth noting are the use of new methods and channels for recruitment (12%).

IV. CONCLUSIONS AND RECOMMENDATIONS

a. Quick fix activities- short term gains: From Internship to Employment

- **Setting up Career Centre and Information offices**— companies strongly recommend that education institutions establish a Career Centre or Information centre which will serve as a point of contact and act as a liaison between student, academia and business community. This Centre will institutionalize the cooperation among partners because without it, is hard any communication or cooperation be established between partners.

- **Organizing the Career Fairs/ Career days**— the Career Centre should establish services to attract the companies visit the campus on a permanent basis. One specific activity that focuses not only on their presence but also recruitment is Career Fairs. These events are good opportunity for companies to develop a database of future employees, interview them and even offer them job/internship opportunities.
• **Study visits of students at company premises**— companies are willing to open doors for organized visits of student’s part of the academic course and deliver presentation about the company, products and other specific information for the course requirement. The company representatives also are willing to offer study tours around production facilities to the students so, they understand the production process better.

• **Internship/Volunteers and Externship programs for current students**— internship programs should be provided to all entry level students (1st and 2nd year) looking for practical knowledge achieved through internship experiences in the companies. At the end of internship period students should be able to choose their career paths.

• **Introduction of Mentorship program**— once the intern is placed in the company the primary objective is to appoint mentors on both side of equation: at the education institution who will oversee the work of the student at the company through internship reports and company mentor, who will guide the students on a daily basis and inform the education mentor about the progress of the internship program.

• **Developing a Case studies and Business challenge on local companies**—companies believe that they will solve their real issues by issuing a Business Challenge mainly to master’s students. The Challenge will group students into teams of up to five members mentored by a professor. This program will give the students a chance to work on realistic local company issues, participating in all the critical business decisions that affect the company. The Challenge will be a true learning experience for all those who participate, incorporating academic models to contribute in resolving real life problems of companies and businesses.

• **Guest speakers from Companies** — CEO’s, founders and company managers are in unison that academia should use more often and in regular basis the practical knowledge and experience of these people by inviting them to deliver lectures as guest speakers on specific topics that in-house knowledge doesn’t exists. The local companies are willing to participate on a regular basis in the lecture theatres and share their expertise for topics in which industry is more advanced than academia.

b. **Long-term Scalable Activities – Transformational programs**

• **Industry-led training**—these activity requires collaboration among LED units, VET Centre, business associations, technical secondary schools, Universities and the regional business community, to deliver academic training programs targeting skills needed in sectors within a priority areas and sectors with big absorption capacity for employment (e.g. agribusiness, ICT, Tourism). These trainings could help youth develop skills to get their first “real” job, or upgrade (re-qualify) the skills of older, unemployed workers to become re-employable.

• **Curricula Development**—Building upon the similar experience targeting the automotive and construction material (throughout Macedonia), a closer collaboration among partners should be established to encourage curricula changes. This will help ensure that schools produce a pool of students with the hard and soft skills to meet a region’s workforce needs without significant additional training (as identified through the regional assessments).

• **Certification Programs**— The program should be based on the curricula of worldwide recognized certification programs and be completed in three semesters (for one academic year) focused on courses developed by International certification programs. Certification programs such as TS mark, ISO, HACCP, etc for should be obtained by companies in order for them to comply with current requirements for export. On the other hand, must be developed **Skills certification**— with focus on the capacity building of individuals, targeting skills of newcomers in the labor market (i.e. Career Counseling, Project Management, Management Consulting) that will help them gain knowledge for more effective utilization of EU accession, structural funds and subsidy programs for specific sectors.

• **Innovative programs (Kick-starter platform)** — will address one of the key elements for fostering business growth of new ideas – access to capital. Therefore, the partners utilizing local knowledge should establish a crowd-funding a mechanism in which an organization uses the talent, time and small donations of hundreds or thousands of people to create or improve a product or service. Similarly, this platform will be customized to needs for funding of local creative and innovative projects by soliciting small donations from the “crowd”.

**LITERATURE**


[2] Better skills, better jobs, better lives, OECD publication, 2014

