Do universities' curricula comply with the firms' demand for employee competence? A case study of Albania.*

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Abstract

The purpose of the study is to examine the agribusiness companies' demand for employee competence and how these competences comply with universities' curricula.

The survey consists of a structured questionnaire that was administered to 427 managers of agribusiness companies in Albania. This research has provided an assessment of the profile of necessary skills required by the agribusiness firms. Results indicate that universities' curricula do not comply with the set of skills and behaviors that is sought after by employers in this sector.

This study examines the gap between universities' curricula and the businesses' needs for human resources' competences.

Keywords: agribusiness sector, knowledge, education, competences, business needs.
JEL Codes: Q10, A23

Introduction

Albania's socio-economic changes during the last decades have dictated an urgent need to revise higher education curricula in order to include new programs and specialties, in accordance with market economy requirements and needs. Effective development of human capital is necessary to raise the technological, organizational and institutional standards, in accordance with the requirements of agribusiness companies.

There are obvious weak horizontal links and a low level of synergy between public and private stakeholders and specifically between universities and businesses (agribusiness firms).

In many cases Albanian universities have not reflected upon the businesses' legitimate need for managers' profiles, thus lacking a clear orientation on this perspective. This has significantly weakened the coherence of study programs and directly reduced employment opportunities for graduates. Addressing the issue that considers the need of a close and intensive contact between universities and

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businesses, is justified because human resources are a source of businesses' competitive advantage (Pfeffer, 1994).

Based on the above observation, the purpose of this study is to examine the demand of agribusiness firms for their future employees' competences, and how these competences comply with universities' curricula. To this end, three main objectives are pursued. The first one is to explore the skills and knowledge that agribusiness firms consider as the most important for their employees' competencies. The second objective is to investigate the differences between university curricula and employees' competencies required by firms. The third one is aimed at examining how universities adapt their curricula and teaching methods in order to equip future employees with the necessary knowledge and skills in accordance with businesses' needs.

This article is organized as follows; we begin by reviewing the literature in order to identify the skills and competencies of graduate students to be employed in agribusiness enterprises, then proceed with the methodology, results, and a discussion. At the end of the study, its summary and conclusion.

Literature review

The agribusiness sector remains one of the largest and most important in Albania, as well as a major source of employment and income. In a rapidly changing economic environment, graduate skills required evolve in their relative importance. The perceived demand from businesses for different skills has prompted policymakers to develop frameworks to ensure that educational institutions deliver skills that will be able to meet labor market demand.

Raising the skills of national workforces through education and training has thus become a primary objective of economic policies aimed at developing national competitiveness (OECD, 2011).

Education is a key factor that affects an individual's position in the labor market, because it prepares its participants for future professional activity by providing them with necessary skills (Ionescu and Cuza, 2012). A more in-depth analysis underlines the gap between skills needed and capabilities of Vocational Education Training (VET) students, identifying reasons for this gap. A similar method enriched with the investigation of different proposals and scenarios on "how to improve VET performance" will be used to identify potential interventions. The main problems related to VET in agribusiness sector affect both the demand and supply side; limited awareness by agribusiness owners/managers, insufficient collaboration with VET institutions, improvement of curricula and teaching methods from universities (IDM, 2016).

Reducing the gap between the level of competencies demanded in today's businesses and the knowledge traditionally passed to students in the course of their

studies is a key issue for improving the efficiency of education systems in many countries. However, this will not be possible without ensuring quality academic staff to provide students with the current knowledge and skills necessary to succeed in the labor market (Leoni, 2014).

An important aspect of agribusiness education is that sector leaders expect graduates to have several skills that improve the management capacity of their activities. It is widely recognized that changes in the nature of work and the workplace in the modern economy are transforming the kinds of knowledge, skills, and attitudes needed for successful employment and work performance (OECD, 2011).

The competence concept has become a central theme in the debate on the development of vocational education and training, scientific education and in organizations (Lans et al., 2004).

In order to use the competence concept, it is necessary to identify and measure competences in a reliable and valid way.

The identification and assessment of competences of human resources is interesting from a scientific as well as a practical point of view. If competences of human resources are unambiguously assessed, the learning process that underlies competence development and the link between competence development, enterprise performance and personal development can be studied in detail. Therefore, a tentative assessment procedure for the identification and measurement of competences of human resources in agribusiness firms was developed (Lans et al., 2005).

Dynamic changes in economic structures influence the demand for certain labor resources, as new jobs are created that require new knowledge and skills (Gawrycka et al., 2020). A vast literature has shown the critical and direct impact of human capital and education on economic output, economic growth, productivity and progress of the society.

Globalization and technological progress force a utilitarian approach to education and, as a result, the transfer of competencies for the labor market is a key task of universities. Understanding the skills and attributes that can help people contribute to the advancement of society, increasingly motivates the efforts to understand the types of skills needed that support innovation and the best ways to develop them (OECD, 2011).

According to Esposto (2008), skills are those generalizable attributes of individuals that confer advantage in the labor market. Referring to the OECD (2011), there are four categories of skills. First, cognitive skills are usually acquired through formal education (skills such as such as problem solving, critical thinking, and creativity) and are transferable to work situations. Second, generic skills that include things such as communication and team working are thought to be

broadly transferable across work settings. Third, technical skills refer to specific skills needed in a particular occupation or job. Fourth, work-related attitudes or soft skills that are hard to conceptualize and define and that are not easily measured. Generally, these are considered and grouped as generic skills and include motivation, leadership, ethics, entrepreneurship, management, charisma, negotiation, coordination. For Tether et al. (2005) skills are an ability or proficiency at a task that is normally acquired through education, training and experience.

Through a wide survey with agribusiness companies, Litzenberg and Schneider (1987), explored the skills and characteristics of agribusiness graduates needed for three different positions: entry level, middle managers and top management. Skills were grouped in six categories as follows: business and economics, computer, quantitative, and management information, technical skills, communication skills, interpersonal qualities, and employment, work, and general experience. Results indicated that the category of interpersonal characteristics (such as self-motivation, positive work attitude, high morals/ethics, team player, self-confidence, etc.) had the highest overall rank, with communication skills ranked slightly lower, followed by business and economic skills, technical skills, computer, quantitative and management information, and lastly, previous work experience. They concluded that better coordination between agribusiness sector and academics is needed to develop the required graduate skills.

Results point out towards a shift in the need for skills of agribusiness graduates, with new skills emerging as important to the knowledge economy. Employers value most workers who can think creatively. The quest for creative ideas and solutions in today's economy is becoming more and more pervasive. Creativity is considered as the new source of economic growth, a key to solving some of today's social challenges (OECD, 2011).

The identification and the effective response to these changes requires that higher education revisits the issue of relevant skills and labor market, and finds the best ways to transfer them to graduates in accordance with the requirements of agribusiness companies. Relationships between higher levels of human capital and skills as the foundation of increased productivity and improved performance are well known; what specific set of skills are required and what this implies for higher education are questions that still need to be addressed. Critical thinking skills were ranked as another very important employee skill. In a fast changing business environment, employees who have critical thinking skills become a very valuable resource for companies. Those companies that can attract, hire, motivate and promote critical thinkers have a significant and measurable competitive advantage in the business world.

An important study from Boland and Akridge (2004) explored how employers' expectations of skills, capabilities, and experiences of agribusiness graduates had evolved over time. Results showed that interpersonal and communication

skills, teamwork capability and critical thinking skills were rated as the most valued skills in future leaders of the agribusiness sector. Wachenheim and Lesch (2002) emphasized that it is widely recognized that academia should prepare students for the job market as well as provide general education.

Agriculture in general and the agribusiness sector, storage and distribution of food products in particular provide a potential for new jobs. Agribusiness-related subsectors offer a good opportunity to increase employment. A study concerning the skills of agribusiness students found that employers highly value graduates' problem-solving skills (Gunderson et al., 2008). As a result of the changes taking place in the agribusiness sector, universities and vocational high schools are continuously redesigning their curricula.

Given the changes and importance of the rural sector in Albania, the purpose of this study is to better understand what skills, knowledge and competencies graduate students must possess in order to be employed as future managers in the agribusiness sector.

Materials and methods

The target group is comprised only by licensed companies within the processing industry of milk, meat, breeding poultry, cattle, pig, activities of production in greenhouses, cultivation of fruit, vegetable, wine production, olive oil, livestock, flour and bread, and beverage. The data source consists of firm managers who serve as key informants because of their access to information about most aspects of a firm's activities.

The structured questionnaire is mainly based on the AGRIMASS model developed by Litzenberg and Schneider (1987). The questionnaire is adjusted considering the Albanian context, its economy structure and the study curricula of the Faculty of Economy and Agribusiness at Agriculture University of Tirana.

To gather data, the face-to-face technique is used to fill in the questionnaires. However, the first step we followed was to have a preliminary test with academics in order to have less ambiguous questions (e.g., Domi et al., 2020). In addition, a preliminary test was conducted with 10 managers, representatives of the target group. As a result, we came up with a final questionnaire consisting of 6 sections wherein 5 of them aimed to gather data about specific factors and the last one was related to socio-demographic issues of the target group. Thus, we gathered information about economy and business skills (30 observed variables), skills on management and application of information systems (8 observed variables), technical skills (7 observed variables), communication skills (6 observed variables) and legislation and fiscal issues (4 observed variables). The final section of the questionnaire was structured to gather general information on the company as well as additional socio-demographic data concerning the number

of employees, the position of the respondents and the turnover of the company. This data served as a basis for the completion of the study arguments. In order to have the managers' interpretation about the quantitative results, qualitative information was gathered. To achieve this, face-to-face semi structured in-depth interviews with 15 owners–managers purposely selected from the respondents were conducted. Such interviews were conducted at the firms' owner–manager offices.

The latent factors in this study are based on subjective measurements. Due to the impossibility of access to objective data, the subjective measures are the best approach to data collection. In addition, various studies show that subjective measures correlate positively with objective measures (see e.g., Sin et al. 2005; Tajeddini 2010; Tajedini and Trueman 2012; Domi et al. 2019).

By using the face-to-face technique, 431 interviews were conducted with agribusiness enterprises' representatives, as described above. Indeed, there is a very high percentage of response rate by using the face-to-face technique, approximately 95 % (Mulry-Liggan, 1983; Thornberry, 1987). However, the number of questionnaires fulfilled reached 427, constituting 20.8 % of the total population and a sufficient sample.

With regard to the sample adequacy, referring to Roscoe's (1975) rule of thumb, a sample size between 30 and 500 is sufficient. Furthermore, Thomas and Wood (2014) stated that to estimate the variability in the population, confidence level and the level of accuracy required suggest a minimum sample size of 200. This would provide sufficient data to undertake both scale validation and refinement.

Data analysis and results

Initially we evaluated some general indicators for businesses, focusing on managers and the owners of businesses. In addition, from a business-structure perspective of agro-industry branches, the cereal processing industry, the meat processing industry and dairy industries dominate the sample with a relative weight of approximately 67 %.

Through these figures we can have preliminary information about the future development of these businesses in terms of human resources' capacities.

Table 1. Respondents and Agribusiness companies' profiles. Source: Authors results

Characteristics	Frequency	Percentage
Gender		
Female	74	17.3 %
Male	353	82.7 %
Total	**427**	**100.0 %**
Age		
18–30	45	10.5 %
31–40	101	23.7 %
41–50	183	42.9 %
51–60	78	18.3 %
Over 60	20	4.7 %
Total	**427**	**100.0 %**
Education		
Secondary Education	182	42.6 %
Professional Education	104	24.4 %
Bachelor	136	31.9 %
Post-Graduate (MSc, PhD)	5	1.2 %
Total	**427**	**100.0 %**
Position		
Manager	81	19.0 %
Owner	297	69.6 %
Owner and manager	5	1.2 %
Employee	44	10.3 %
Total	**427**	**100.0 %**
No of employees		
1 – 4 employees	261	61.1 %
5 – 9 employees	88	20.6 %
10 – 50 employees	69	16.2 %
Over 50 employees	9	2.1 %
Total	**427**	**100.0 %**

Characteristics	Frequency	Percentage
Experience/Years		
Until 2 years	26	6.1 %
2 – 5 years	107	25.1 %
5 – 10 years	110	25.8 %
Over 10 years	184	43.1 %
Total	**427**	**100.0 %**

While looking at gender, the majority of respondents (83 %) are male, with only 17 % of them being female. The majority of respondents (66.5 %) are aged 31–50, (10.5 %) are aged 18–30, while 23 % of them are over 50 years old. With regards to the educational level, it is estimated that about (33 %) of business leaders have had higher education and earned a master's degree, (43 %) are with secondary education and (24 %) are with professional education.

Regarding their positions, the majority of respondents (70 %) are owners and (30 %) are managers and employees. Relevant to the number of employees, (61 %) of agribusiness companies have 1–4 employees, (21 %) have 5–9 employees and (18 %) have over 10 employees. In terms of experience (years), (43 %) of agribusiness companies, have over 10 years, (51 %) have 2–10 years and (6 %) have less than 2 years.

After gathering the data and going through the purification process, the next important step undertaken was to explore factors that measure aspects of the same underlying dimension. The most used statistical procedure for investigating relations between sets of observed and unobserved variables is factor analysis (Byrne, 2010). Thus, in the framework of factor analysis, the exploratory factor analysis (EFA), based on the Principal Component Analysis (PCA) method, is undertaken. These techniques were implemented by using SPSS software.

Exploratory Factor Analysis is the most used technique in the studies of social sciences (Field, 2009). This is a statistical procedure used to investigate the relationship between groups of observed variables directly (items) and the latent factors (Byrne, 2010). By using this method in the data analysis, we aim to understand the structure of a set of observed variables that highly load onto factors of which they are indicators and exhibit small loadings on factors that are measured by differing sets of observed variables. In this study the Cronbach alpha is used (Cronbach, 1951) to test the reliability test (Field, 2009).

Finally, a PCA and reliability test were conducted and through EFA we examined other basic descriptive analyses. In framework of the EFA, a PCA method was conducted on the 30 observed variables of Economic and Business Skills factor with orthogonal rotation (varimax) and eigenvalues with criteria of 1.0 (Kaiser, 1960) (see Table 2).

In this context 14 out of 30 observed variables are deleted. We deleted those items for further analyses because during the data reduction, they were not respectively measuring the same common underlying dimension as they were supposed to measure. In this regard, only 16 observed variables remained for further analysis since they were measuring the same underlying factor, as previously predicted. These 16 observed variables resulted with eigenvalue over Kaiser' criterion and explained 77 % of total variance.

Finally, the Cronbach's αvalue for the Economic and Business Skills factor measured 0.98, exceeding the 0.70 level as recommended by Nunnally (1978). Regarding the skills needed in IT management, we conclude that all the observed predicted variables (8 items) measure it. On component had eigenvalues over Kaiser's criterion of 1 (see Table 2) and explained 95.7 % of the total variance. The Cronbach's α value resulted 0.99 revealing the high reliability of the construct.

Considering the Technical and Technological Skills factor, all the observed variables were measuring the same common underlying dimension as they were supposed to measure. One component emerged with eigenvalue over Kaiser's criterion of 1, explaining 76.2 % of the total variance.

In this framework, the alpha coefficients measured 0.94, showing that all the observed variables are reliable. For the Communication skills factor, all the observed variables were measuring the same common underlying dimension.

One component had eigenvalues over Kaiser's criterion of 1 (see Table 2) and explained 81.3 % of the total variance. Finally, α coefficient measured 0.95, thus proving that all the observed variables that measure the Communication skills factor are highly reliable. Regarding the Legislation and Fiscal issues' factor, the missing data hindered its investigation. Indeed, this situation is justified as this data is sufficiently reliable.

Table 2.   Construct measurements. Source: Authors results

Factor	Average	SD	FL	EV
Economic and Business Skills (*α=0.98*)				77 %
Promotion and advertising	8,03	20,829	,963	
Natural resource management	7,81	20,878	,963	
International agricultural policies	7,63	20,926	,962	
International trade	7,28	20,474	,953	
Consumer behavior	8,10	21,326	,951	
Rural development	7,35	19,917	,938	
Project appraisal	7,10	19,417	,933	
Financial analysis	6,75	18,335	,924	
Goals and objectives	6,37	17,188	,902	

Factor	Average	SD	FL	EV
Human resources management	7,61	20,396	,874	
Production management	5,73	15,984	,851	
Inventory management	6,09	15,937	,839	
Management accounting	5,79	15,284	,806	
Strategic management	5,83	15,284	,745	
Business financing	5,50	14,621	,734	
Decision-making techniques	5,22	13,888	,731	
Skill on systems IT management (α=0.99)				**95.7 %**
IT and maintenance	8,47	22,270	,996	
Computer based decision-making	8,61	22,233	,996	
Installing computer systems	8,35	22,296	,996	
Quantitative techniques, planning, programming	8,87	22,171	,996	
Use of statistics software	8,71	22,210	,996	
Computer programming	8,44	22,280	,996	
Basic computer program	8,05	21,374	,971	
Accounting programs	6,92	18,914	,876	
Technical and Technological Skills (α=0.94)				**76.2 %**
Plant production technology	11,24	26,732	,978	
Animal production technology	11,86	27,770	,975	
Control of production process	10,43	25,259	,937	
Production techniques	10,06	24,474	,929	
Animal products processing	10,25	25,320	,828	
Distribution and transportation systems	7,46	19,577	,757	
Agricultural products processing	7,53	20,131	,656	
Communication skills (α=0.95)				**81.3 %**
Creative ideas in oral communication	8,61	22,184	,975	
Creative ideas in written communication	8,71	22,159	,975	
Technical communication	8,13	20,784	,951	
Writing reports	7,51	19,860	,939	
Phone communication	7,41	19,340	,894	
Transferring ideas and information	4,99	12,251	,630	

Note: SD, standard deviation; FL, factor loading; EV, explained variance.

Conclusions

The purpose of the study is to examine the agribusiness companies' demand for employees' competences, and how these competences comply with universities' curricula. This research has provided an assessment of the profile of necessary skills required by the agribusiness industry.

It is crucial to address issues related to the need of cooperation between academy and business. The relation of these two stakeholders is significant, considering the high dynamism of the professions required by the labor market. However, the qualitative data retrieved from interviews with managers of agribusiness' firms indicates that there exists a significant gap. Thus, several managers stated that graduate students who are ultimately employed at their firms, do not possess the set of knowledge and skills required to perform professionally. It might be reasonable to state that this gap is a consequence of a soaring dynamism in the labor market. This rapid change of the employment landscape is a consequence of certain factors such as demographic, socio-economic and technological trends, as well as disruptions to the business and operating models of global companies (WEF, 2016).

The relation between higher levels of human capital and skills as the basis of increased productivity and performance at work is evident. It dictates the revision of higher education curricula as the appropriate way to educate graduates on this matter.

In this framework, further cooperation between universities and businesses is expected to have positive impacts on several areas, such as the development of curricula that offer a more practical education. It results in providing human capital with the relevant knowledge and skills required by the labor market. Through this study we investigated the gap between universities and businesses, identifying the knowledge and skills that universities' curricula provide and examining the businesses' need for human capacities. The results of our study were diverse.

Thus, considering the economic and business skills and also referring to the explorative data analysis, results indicate that in 50 % of the items representing the knowledge and skills that universities' curricula provide, were dropped out after the responses by the businesses' representatives.

This statistic should urge universities to adjust their curricula in order to provide economic and business skills for future managers conforming the businesses' needs.

Considering three other categories of knowledge and skills that universities' curricula provide such as skill on systems IT management, technical and technological skills and communication skills, predicted items have fully matched the expectations of the businesses' representatives. Thus, all items that represented

these three categories of knowledge and skill are considered relevant and acceptable by businesses needs in terms of human capacities.

Universities are responsible for providing a conducive environment to prepare and equip graduates with a range of new skills and knowledge to meet the market requirements. An efficient coordination of labor market needs with universities will enhance the employability of graduates in agribusiness companies. In universities, teaching methods that encourage teamwork, delegate responsibility, motivate students and involve them in various decision-making practical cases should be used. In terms of curricula and practical training of graduates, universities' orientation in accordance with market developments and the growing demand for business managers is primordial.

Future research prospects

Despite its theoretical and practical contributions, this study has several limitations. The cross-sectional data used to examine the sample imposes to posit that conclusions are related and valid at one point in time. Thus, findings may have inferential limits.

Future studies will also aim towards a more in-depth analysis (a larger number of respondents and a more diverse sample, as well as an examination of the above indicators), in order to reduce gaps between graduate students' competences and businesses' needs. However, these explorative results are an important basis for future empirical studies, in order to examine their effects on the businesses' success. Further, given the size and importance of the agribusiness sector, universities must adjust their curricula in order to equip future managers with necessary knowledge and skills in accordance with businesses' needs. Third, considering the data is extracted from one country alone, generalizability to all countries is questionable.

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