A COMPARATIVE STUDY ON STUDENTS' AND EMPLOYERS' PERCEPTION ON COMPETENCIES AND SKILLS ACQUIRED TO ACCESS THE JOB MARKET

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Abstract

The graduates' access in the job market is secured, to a large extent, by the level of training on completion of studies, i.e. the acquired competencies and skills. At the same time, the employers are concerned with attracting young graduates not only holders of a university degree, but those who make the proof of a good theoretical and practical training, to meet the current demands and perform well on the job. The POSDRU competition gave us the opportunity to have the Adapt2jobs (www.adapt2jobs.ro) project financed, and enabled us this study. The comparative study was designed on the principles of quantitative research and was possible as a result of processing the data collected during two student and employer surveys, basically aiming at the same variables. The originality of the study lies in the simultaneous analysis of both the students' and the employers' perception over the same variable, e.g. the capacity to identify problems and find solutions. The results of the study were used during the implementation of the Adapt2jobs project and underlied the intervention on the curriculum but also on the content of three different areas of studies: social sciences, economic sciences and architecture.

Keywords: competencies, skills, curriculum, survey, employers, students, job market, UBC (University-Business Cooperation).

Rezumat

Accesul absolven ilor pe pia a muncii este asigurat, în mare m sur , de nivelul de preg tire la terminarea studiilor, adic de competen ele dobândite. În acela i timp, angajatorii sunt preocupa i de atragerea tinerilor absolven i care nu doar de in o diplom universitar , dar i fac dovada unei bune form ri teoretice i practice, pentru a face fa cerin elor actuale i a ob ine performan e la locul de munc . Competi ia POSDRU ne-a dat posibilitatea de a finan a proiectul Adapt2jobs (www.adapt2jobs.ro), permi ându-ne acest studiu. Studiul comparativ a fost proiectat pe principiile cercet rii cantitative i a fost posibil ca urmare a proces rii datelor colectate pe parcursul a dou

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anchete pentru studenţi şi angajatori, care au ţintit în principiu aceleaşi variabile. Originalitatea studiului constă în analiza simultană a percepţiilor studenţilor şi angajatorilor asupra aceloraşi variabile, de exemplu, capacitatea de a identifica problemele şi de a găsi soluţii. Rezultatele studiului au fost utilizate în timpul implementării proiectului Adapt2jobs şi au fundamentat intervenţia asupra curriculum-ului, cât şi asupra conţinutului a trei domenii diferite de studii: ştiinţe sociale, ştiinţe economice şi arhitectură.

Cuvinte-cheie: *competenţe, abilităţi, curriculum, sondaj, angajatori, studenţi, piaţa locurilor de muncă, CUMA (Cooperare Universitate – Mediul de Afaceri).*

1. Job market – an opportunity and challenge for graduates

The current economic landscape shapes the employer's behavior in many aspects of their business, such as human resources management. Starting with recruitment methods, setting up the selection process based on specific criteria and being aware that the new employees need to be integrated in the company and to demonstrate their ability to work efficiently at a certain level of productivity.

Human resources suppliers would like to have a better recognition of their social involvement, for example universities would like to have graduates validated by the society as valuable members, capable to work, to produce value for the company they employed, for their family and themselves and for the society as a whole.

Both, employers and HR suppliers would like to examine their performances in terms of employers' competencies and skills, looking mostly to match the competencies and skills built on school years with those needed in real life, those demanded by the companies.

Critical voices rise from both parties: education providers argue that they build competencies and skills based on the educational science principles, using adaptive methods and techniques which support a more efficient learning. On the other hand, employers are more critical saying that the graduates are theoretically-oriented with less practical skills and that makes them inefficient in most of the day to day situations they encountered at work. Where is the truth located?

1.1. Job market – a brief outline of the main characteristics and developments

The Fourth Industrial Revolution with its main driver, the technological revolution, with its strong impact on the socio-economic and geopolitical developments,

claims immediate adaptability and action. The employment landscape has experienced changes impossible to anticipate for such a short time frame: according to the World Economic Forum January 2016 Report, „the most in-demand occupations or specialties did not exist 10 or even five years ago, and the pace of change is set to accelerate". New jobs appeared, some traditional jobs became obsolete and vanished, finding businesses and individuals unprepared to cope with the new developments and the new employment patterns. Technology and automation have had a decisive impact on the structure of jobs. Work displacement because of technology and automation was something inconceivable not long ago, though warned by researchers and theoreticians of the field. Thus, early 20th century, Keynes admitted that one of the worries was a „new disease": „technological unemployment… due to our discovery of means of economising the use of labour outrunning the pace at which we can find new uses for labour". Considered hardly a problem by his peers, this anticipation proved its validity towards the end of last century, and much more during the 21st century. A 2013 paper by Carl Benedikt Frey and Michael Osborne, of the University of Oxford, argued that jobs are at high risk of being automated in 47% of the occupational categories into which work is customarily sorted. That includes accountancy, legal work, technical writing and a lot of other white-collar occupations – as cited by The Economist, 2014.

The pressure of rapid changes in the employment structure and job market requirements may only be balanced by adaptability, anticipation and flexibility. Adaptability to tackling change and disruption, flexibility in upskilling for work displacement, and anticipation for successful and smooth integration.

In spite of what we would have expected with the technological boom impact on the job market, i.e. (highly) qualified specialists, more university graduates, the Romanian job market seems to experience a surprising decline in this respect, with an inequitable levelling of diplomas or lack thereof! Yet, job market analysts claims that this trend is only temporary and that very soon, The Romanian job market requirements will change in favor of highly qualified individuals, with a solid general background and specialized skills. What is the reactions of the universities to this new trend? Are they ready enough to be as flexible as the socio-economic environment requires?

1.2.   The competencies and skills for future jobs

The highly competitive nature of our society requires flexibility in approaching the teaching/learning process to provide for the young learners the specific competencies and skills for a future successful career. The constant internet

access of the young generation and the available, attractive and concise information is a constant challenge for the universities and the academia in keeping the interest of the students vivid and fighting back the competition of the Internet. It has become more and more obvious for the university staff that courses should be more attractive and with a prevailing pragmatic component to be relevant and credible for this generation with high expectations from the educational providers. The job trends and job descriptions evolve with the society developments, so it is important for a young individual to be provided with that kind of information and skills which may secure his/her presence on the job market for many years.

The World Economic Forum January 2016 Report emphasizes on the changing nature of work and the forthcoming competition for talents. The rapid pace of change will have a strong impact on skills: the set of skills will change not only for emerging jobs, but also for existing (even in decline!) jobs. Some skills that are not yet considered important, will be considered 'core skills' by 2020. Highly qualified personnel will be in-demand soon in such fields as: Business, Architecture, Social and collaboration skills, Computer skills, Healthcare for an ageing population, Education and Training – are anticipated as in an upward trend (Dawn, 2008). A bachelor's degree will be the least required. The technological boom raises the standards of education to a higher level!

Consistent with its areas of expertise, the team of the Adapt2jobs project focused on three domains listed as in growing demand on the job market: economic sciences, social sciences, arts and architecture. 7 new digitised courses were designed, using images, details in hyperlinks, videos made by the course designers, and based on the concept of 'active learning' were posted on a dedicated portal. The teaching/learning method chosen was the 'flipped classroom' one, with a special focus on critical thinking, personal development, problem-solving, team networking, decision-making. The flipped classroom or the reverse teaching/learning method enables a more flexible student-centered educational process, where the student makes his/her own selection of information relevant for himself/herself and makes decisions related to his/her extent of learning, learning rhythm and timeframe.

2. The curriculum and the job market requirements

The providers of educational services (namely HE institutions) are currently focused, especially in Romania, on complying with the ARACIS standards and performance indicators in order to obtain and maintain their authorization/

accreditation of their study programs. Looking at these specific standards, one can see how detailed are presented especially in point of curriculum content. ARACIS (Romanian Agency of Quality Assurance in Higher Education) has 15 different specialized commissions, such as: sciences, economic sciences I and II, engineering, humanities, etc. One can notice that ARACIS has nominated a special commission of employers, meaning that the „voice" of employers was taken into account when quality criteria were discussed. Each specific commission works according to its own rules, and one of these rules refers to the curriculum content.

For example, the Economic Sciences Commission has drafted specific evaluation criteria and quality assurance standards, and one of the regulations in place refers to the curriculum content. The regulation introduced the specific lists of courses that should be inserted in the curriculum; the list of courses contains four categories of courses: fundamental, field courses, specialization and complementary.

So, as long as the curriculum content is strictly regulated, how can universities benefit from their autonomy in designing study programs adapted to the job market requirements? Based on the transparency principle, ARACIS should provide universities with the consultations results inside of the ARACIS Employers Commission. Until now, this kind of reports are not publicly available, if they exists. Looking at the structure of the ARACIS Employers Commission, we would like to underline the fact that in this commission are involved organizations such as: National Bank of Romania (the president), National Office for Authors Rights (ORDA), General Association of Engineers of Romania, two representatives of SMEs, Academy of Technical Sciences, but one can ask about their representativeness and experience in designing study programs, running them and at the end the validation process of graduates. No study has been done so far (or is publicly available), by this commission in order to explore what the current and future job market requirements are in term of skills and competencies of HE graduates. Therefore we appreciate that there is a real need in this direction and we would like to get involved, as autonomous HE institution and major beneficiary, in running such a survey in order to capture the job market requirements and how they are reflected in the ARACIS compulsory lists of courses.

The question is: Is innovation a sufficient ingredient for a comprehensive, effective university training nowadays? Recent studies in Europe, but also in Romania (e.g. Trendence Eurobarometer Survey), have shown the high expectations of Romanian graduates in terms of salary, career development

perspectives, multinational working environment. As the rate of university graduates decreases, the Romanian graduates claim well-paid jobs and other benefits from their employers. Usually, their preference for a work place go to multinationals, banks, or any powerful enterprise.

In their article Adapt2Jobs – A new Learning Ecosystem (eLSE, 2015), the authors detailed on the following: „The European Commission, DG Education and Culture Study on the cooperation between Higher Education Institutions and Public and Private organizations, revealed the fact that the cooperation between HEIs and business in Europe is still in the early stages of development mostly because UBC is influenced by a series of factors such as: perception of benefits coming from UBC, and barriers to UBC, despite the fact that UBC is expected to deliver a high impact on economic development and contribution to society, in general. The UBC Ecosystem, created by Davey & Galan-Muros, 2011 (De Vaus, 2002), illustrates the fact that UBC seen as a result, is strongly dependent on the influencing factors' action, the 4 pillars foundation and key stakeholders' willingness to get involved in the long run... The European UBC is influenced by a large number of factors including the perception of benefits coming from UBC as well as barriers to and drivers of UBC. Moreover, situational factors such as age, gender, years at the HEI, years in business, type of HEI and country also influence the extent of UBC undertaken. Despite this complexity, UBC can be increased by focussing on appropriate UBC strategies, structures and approaches, operational activities and framework conditions. The model depicted below outlines the relationships among these different elements within the UBC Ecosystem".

Universitatea *Spiru Haret* has taken steps in the direction of developing an „ecosystem" between university and business by opening the **USH Pro Business** – a center dedicated to the entrepreneurial environment of the University, devised so as to support businesses and providing solutions for supporting competitiveness.

The center provides for services and expert assistance for the entrepreneurial environment by means of projects and programs elaborated as a result of prior consultations with businesses and businessmen associations. **USH Pro Business** adds value to the existing services, by understanding the needs of the partners and connecting them to university life and endeavours. The range of services includes research and innovation oriented towards market solutions, vocational training, support services for business and clusters' competitiveness, organizing business events etc. The mission of such a center is precisely to bring the university closer to entrepreneurial needs.
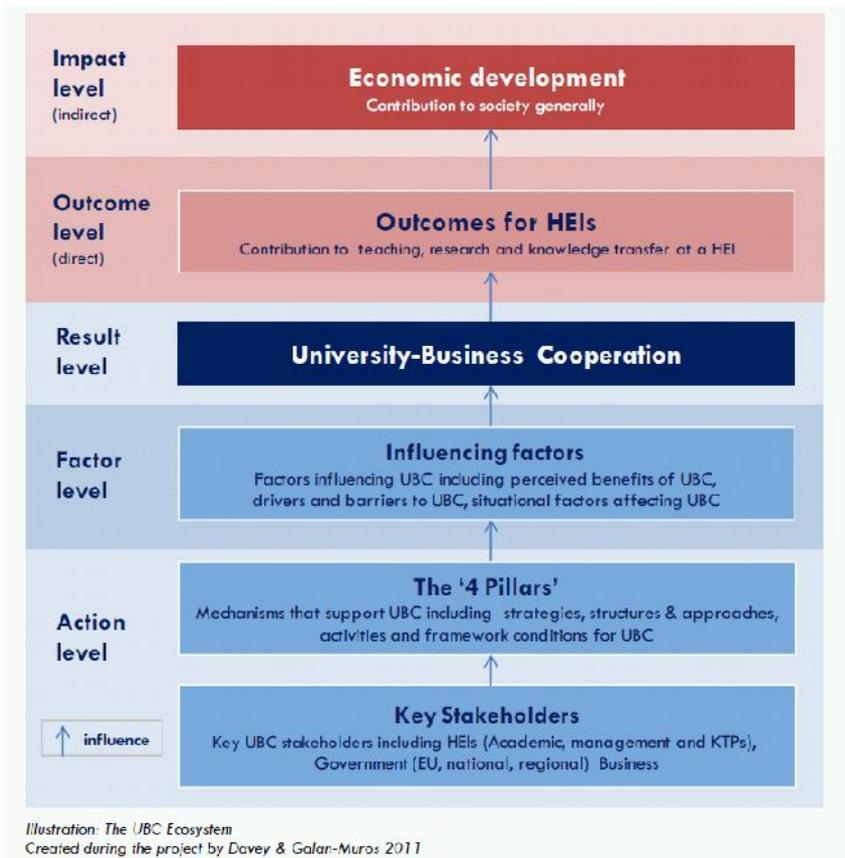
Illustration: The UBC Ecosystem
Created during the project by Davey & Galan-Muros 2011

Fig. 1 The UBC Ecosystem – Impact, Results, Outcomes, Factors, Actions

2.1. **The Adapt2jobs project**
„*The Adaptation of the curriculum and educational package to the the job market requirements*", a.k.a. ***Adapt2Jobs***, was an 18-month project, started May 2014, funded by the Government of Romania and the European Social Fund through the Human Resources Development Sectorial Operational Program.

The purpose of the project was to increase the attractiveness and quality of the educational offer of universities by designing a course package with a focus on the pragmatic dimension of education, meant to develop those competencies in current demand on the job market and presenting them in

the virtual medium by means of e-Learning technologies. The course package was specially designed and developed by the team of experts based on the feed-back of a session of brainstorming held with decision-making authorities, representatives of the business environment, head-hunters and recruiters, in order to collect their opinions, suggestions, forecast of the job market development. The courses were designed for the Cycle I undergraduates and were structured according to the three following areas of study:
- Economic sciences
- Social sciences
- Arts and architecture

The novelty of the project consisted not only in a package of 7 new, digitised courses, with immediate impact on personal development and acquisition of additional competencies and skills, but also in the new method of teaching/learning, the „flipped classroom" method. It consists in the „reverse order" of the teaching/learning process: the students have immediate access and study the theoretical content uploaded on the specially designed portal (www.adapt2jobs.ro) for the courses they enrolled for, and such online theoretical information are consolidated and applied later in the classroom, in the presence and with the support of the instructor. The theoretical content is presented in an attractive format, using images, and additional text in hyperlink, with video recordings made by the scientific advisor. Thus, the teaching/learning process is a personalised one, and every student benefits from relevant guidance according to his/her own interests. This methods supports the „active learning" concept, encouraging both individual study, and team work for problem-solving, using student's creativity.

The 7 courses package was the following
Social sciences
- Strategies of communication for personal development (taught in English)
- Cultural projects management
Economic sciences
- Studying market conditions
- International finance
- Budget and treasury
Arts and architecture
- Contemporary technologies in architecture
- Entrepreneurship and visual communication in architecture

The following activities were performed by the management and implementation team of the project:

- Developing the curriculum, teaching materials and tools
- Implementing the curriculum using the support tools provided by the educational package
- Performing the evaluative research on the implementation of the curriculum and the developed educational package
- Information, dissemination and promotion activities.

2.2. The survey

Based on the work done during the Adapt2jobs project implementation, the project team understood the importance of evaluating the students' perceptions on the acquired skills and competencies and how this will help them after graduation, in their attempt to find a job and to adjust themselves at work. A need for a study to address these issues was more than obvious for the project team.

In any particular study a range of research methods can be used. The techniques by which data are collected using any of these methods can vary considerably. The survey research seems to be the most appropriate method to be employed, because survey is one of the most reliable methods of collecting, organising and analysing data. The relevant data can be collected by a variety of techniques and in many studies it may be appropriate to use a range of research methods (De Vaus, 2002).

Therefore, a double pilot survey was designed and conducted during and after project implementation. The double pilot survey was builted as a quantitative research, using the data collection via an online questionnaire. Why a double pilot survey? Just because we intended to capture students' perspective as well as employers' perspective on the skills and competencies built during higher education years, to verify the variables' consistency and questionnaires' functionalities. Even if the double pilot survey has its limitations, due to the relatively reduced number of respondents of both categories, the main aspects of perception were brought to light. We are aware that deeper insights are needed.

The research questions were formulated as follows:
Survey 1 – applied to students' sample:
– What is the perceived utility of tertiary studies?
– How do students understand and appreciate the teaching/learning process?
– Are students aware of their acquired competencies and skills? How did they perceive the level of competency reached?
– Did they have the capacity to use them on the job market?

Survey 2 – applied to employers' sample:
– What is their current practice in recruitment?
– How do employers perceive the usefulness of tertiary education? What are their expectations from university graduates?
– Are employers' recruitment criteria oriented towards the level of competencies of the nature of skills?
– What are the most desirable assets of a graduate? Theoretical vs practical knowledge.

Of course, the surveys have a slightly similar questionnaire, some of them were addressed especially to students and some questions to employers' representatives included in our sample. The idea was to compare the perception of the two categories of representatives, those of the demand (students) and of the offer (employers) on the job market.

The surveys variables were grouped in 2 major categories on each survey:
Survey 1 – variables (questionnaire available at https://www.surveymonkey.com /r/WGNYN8M)
a) Group 1: Perception regarding the study usefulness
This category includes five variables: level of satisfaction toward the quality of the study program, level of difficulty of the study program, student-centered learning orientation of teaching, level of theoretical knowledge acquired and the ability to use it in practical situation, level of the practical knowledge acquired and the capacity to use it in the future job environment.
b) Group 2: Perception regarding the acquired competencies and skills
In this group nine variables were included: good understanding of the area of specialization, knowledge acquired in complementary fields, capacity to learn rapidly new things, problem identification and solving, ability to present ideas, reports, IT literacy, communication in a foreign language, team working skills

Survey 2 – variables (questionnaire available at https://www.surveymonkey.com/ r/QP6RNHG)
a) Group 1: Perception regarding competencies and skills reflected in the recruitment criteria and practices
In this first group variables were reunited, linked to the group 2 questions of the Survey 1, such as: importance of the level of education, practical experience, HEI reputation, practical experience acquired abroad, importance of candidate's references in recruitment, level of qualification, communication capacity, level of foreign language knowledge.

b) Group 2: Perception of the tertiary education usefulness on the job market
access

Second group variables are more or less linked to the Survey 1 questions
from the group 1, the professional success linked to the graduation of a HEI,
choosing a specialization in accordance with job market opportunities, level
of theoretical preparation on graduation, level of practical training on graduation,
HE training helps graduates to perform.

Each variable was measured using a Likert scale, that allows us to produce
comparable data and to analyse them accordingly, using descriptive methods.
Descriptive statistics are used mainly to describe the basic features of our
data. We provide simple summaries about the sample and the measures.
Together with simple graphics analysis, they form the basis of virtually every
quantitative analysis of data. With descriptive statistics we are simply
describing what is or what the data shows. For the latter, in case of an extensive
study, we will employ inferential statistics, when we will try to reach conclusions
that extend beyond the immediate data alone. The sample size was calculated
starting from the target group of students involved in project activities and still
using the educational products created inside the project (e.g. online courses,
calculation instruments, case studies etc). The questionnaires were made
available online and data collection was supported by Survey Monkey, which
allows us to see the results in real time.

2.3. The findings

The data collection was a successful process helping us to gain valuable
insights on the students and employers perceptions on various aspects of
teaching, competences and skills formation and how important these are in
accessing the job market.

The idea of a comparative study came up from a series of interviews taken
during Adapt2jobs implementation. From the students' perception on what
job market representatives are looking for, we realize that it can be slightly
different than what really happens in the recruitment and selection process.
On the other hand, employers are interested in the content of HE programs,
but not really happy with graduates' performance.

The survey findings are summarized below, the visual representation being
considered as more suggestive to draw preliminary conclusions.

Looking at Fig. 2, one can easily see that the students are optimistic in the
evaluation of the quality of their study program, also they strongly agree on

the fact that the majority of academics have adapted their work in order to meet the students' needs. So, we may conclude that the student-centered learning approach is taken into account more and more in Romanian HEI.

Students are confident that they are well prepared at the theoretical level, the majority of respondents strongly agree upon that, but not so highly confident when it comes to practical training, the majority indicated the second level on the Likert Scale (agree with the statement)
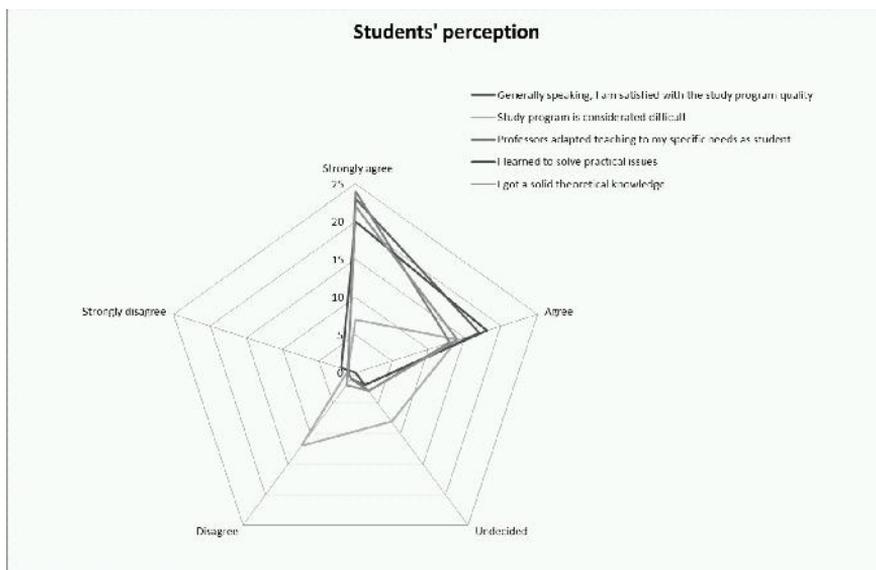

Fig. 2 Students' perception of the HE usefulness for future career

When it comes to students' perception on skills and competencies, the optimistic note of the evaluation is still visible. Fig. 3 shows us which competencies and skills are considered at the highest level of acquisition, and those are: teamwork, computer & Internet usage. At a moderate level are situated: critical thinking, becoming a quick learner and idea/solution presentation. The less confidence can be seen when it comes to drafting reports, studies, documents etc. basically some of daily common work that should be faced after graduation.

Looking at the employers' answers, Fig. 4 shows us a quite different perspective. Those employers indicating disagreement are almost equal as percentage with those strongly agree plus agree when they mention their
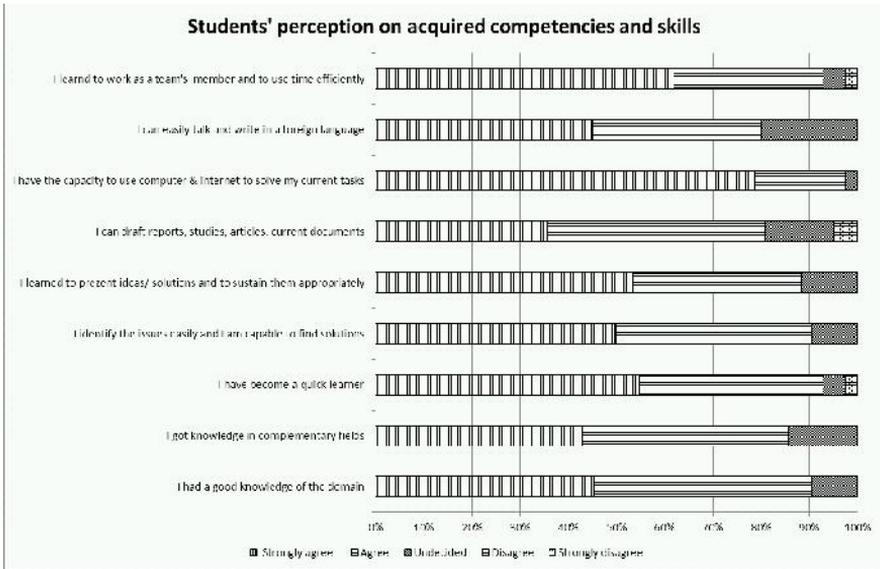
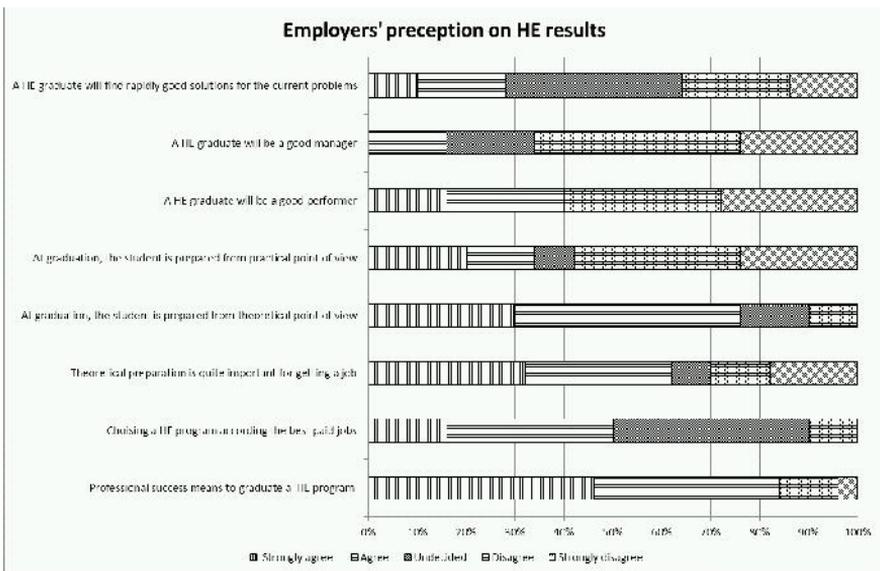**Fig. 3 Students' perception of acquired competencies and skills**

Fig. 4 Employers' perception of HE results in term of competencies and skills, and the graduate performance as a whole

perception of the graduates capability to find solutions rapidly to current issues. The recruitment process can be considered a complex process, being an objective one due to a set of criteria used. So, we considered that it will be useful to tackle the recruitment and the employers' perception on graduates' value on the job market.

The survey' results show that employers are interested to a great extent of the candidate's level of education, the practical experience is not necessarily a competitive advantage, but the HEI 's reputation is really not an issue, as far as the graduates are theoretically well trained. (Fig. 5)
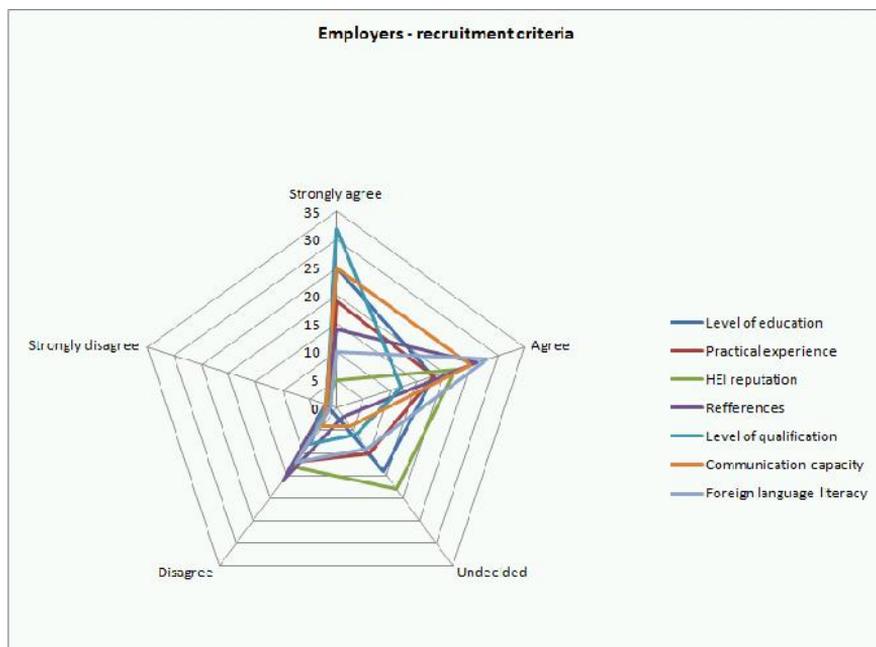

Fig. 5 Recruitment criteria and their link with graduates competencies

An important aspect of the selection process is related to the candidate's communication skills, especially their communication proficiency using a foreign language.

The pilot surveys were balanced in term of age structure and unbalanced when it comes to the graduates structure (Fig. 6) – the percentage of undergraduates, enrolled in the 3rd year of Cycle I, is prevalent. The majority
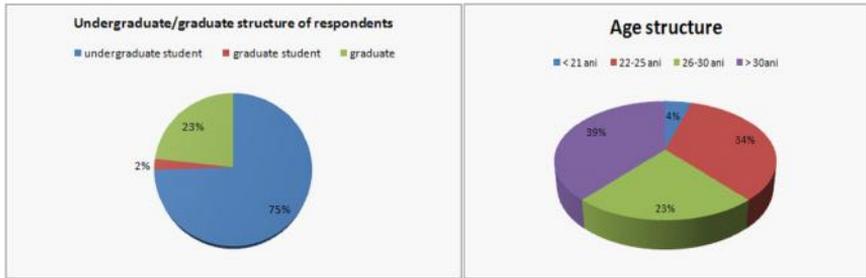
Fig. 6 Students' sample structure

of respondents are part of this group just because they were the first who received the invitation to answer, entered in the database of the Adapt2jobs project.

Looking at the pilot survey 2, the structure of employers that answered is well balanced (Fig. 7) and this aspect encourages us to pursue the same sampling methodology, when we will extend the research study to be relevant at the national level.
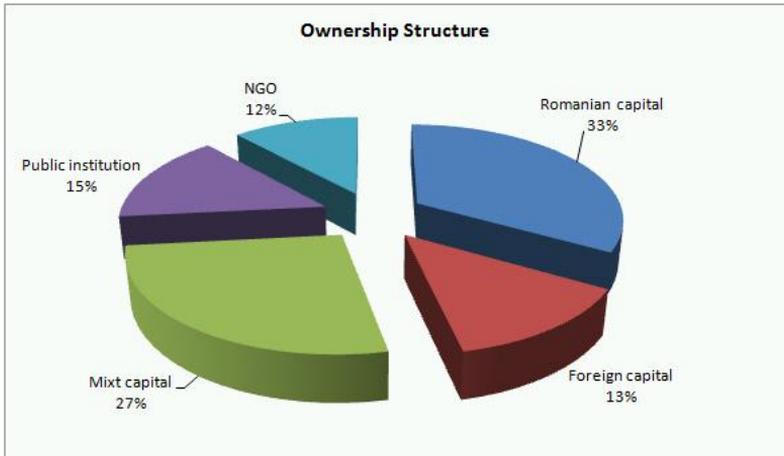

Fig. 7 Ownership structure of the employer's sample

3. The further research blueprint

The pilot surveys prove the research study potential. Also, testing the questionnaires helped us to understand what variables are truly important to be analysed, but in a much broader perspective in terms of representativeness and the findings' level of confidence.

It is important to continue this research, not only because the topic is challenging, but also because Adapt2jobs project just tackled it, and it is a real need to understand the employers' requirements and to be able to build a real strategy to reform the HE curricula, too much criticized in the past two decades.

REFERENCES

Dawn, D. *7 Careers for the Future*, AMACOM 2008 retrieved from http://www.salary.com/7-careers-for-the-future/, accesed 12 March 2016.

De Vaus, D. *Surveys in social research*, 5th Edition, Routledge, Taylor & Francis Group, London, 2002.

Epure, M., Vasilescu, R., Mihaes, L. *Adapt2Jobs – A New Learning Ecosystem*. In: *Rethinking education by leveraging the eLearning pillar of the Digital Agenda for Europe!*, Proceedings of the 11th International Scientific Conference „eLearning and Software for Education", Bucharest, vol. 1, 2015.

*** *The onrushing wave,* The Economist, January 2014.

*** *The Future of Jobs,* The World Economic Forum Report, January 2016.