

SOCIAL MEDIA INFORMATION SYSTEMS AND GRADUATE EMPLOYABILITY: A QUALITATIVE REGIONAL RESEARCH

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ABSTRACT

A strengthened communication between companies and other social partners is a condition for enhancing graduate employability. Social media technologies could facilitate this communication and add new dimensions of teaching and learning. We present the results of a qualitative study conducted in order to identify the opinions of relevant stakeholders in relation to the initiative of developing a social media information system in a European region, for enhancing graduate employability in that region. Similar to other European regions, in the Danube region there are various difficulties related to the employment of graduates, such as: decrease of job security over the career, high probability of having obsolete professional competences in a short period of time after graduation, and difficulties in choosing a suitable working place according to one's education.

The main study conclusions were that our initiative's relevant stakeholders have slightly different opinions in this regard, mainly due to different levels of experience in using social media in communication processes. Also, companies expressed their intention not to interfere with universities' e-learning environment, not even for recruitment purposes. At the same time, universities showed interest in any type of continuous involvement in the professional development of their graduates, including the initiative of extending their traditional learning space towards social networks.

Keywords: Social media information systems, employability, social networks, e-learning, e-recruitment

INTRODUCTION

Recent research on employability (EC, 2016; Vuksanovic et al, 2014; Garrouste & Rodrigues, 2012) has intensified the debate on the role of higher education. Economic difficulties have increasingly strengthened the tendency to define the role of higher education in narrow terms, as a tool for ensuring economic competitiveness. In several countries, especial in Europe where higher education is financed mainly by the public budget, the government considers itself entirely entitled to ask for more "employable" courses, even if this transforms academic programmes into trainings. Even if education and employment are connected, the mission of higher education should be defined in a broader sense, in relation to societal needs and not solely in economic terms.

The concept of employability is connected not only with employment, but also with several other concepts, such as active civic involvement, personal development, lifelong learning etc. Vuksanovic et al (2014), define employability as a concept including „subject-specific, methodological, social and individual competences, which enable graduates to successfully take up and pursue a profession/employment and empower their lifelong learning. Employability is also about making graduates more likely to gain employment in their chosen field(s), being able to create/start new businesses, and being able to develop and succeed in their occupations". Graduate employability is strongly related to curriculum design and university governance, but it is also related to the several national and international agreements/frameworks, such as the automatic recognition of academic degrees, the recognition of prior learning, the qualification frameworks, etc.

Increasing employability has a both a short and long-term perspective. The short-term perspective refers to graduates' capacity to deal with constraints of the labour market and obtain employment. The long-term perspective is their capacity to keep employment, and to move on in the workplace and more broadly in lifelong learning.

Lifelong learning refers to a permanent implication in formal and informal education, on a daily basis. Education and learning do not refer only to formal schooling anymore – a person must acquire, evolve and maintain specific knowledge and skills to assure his self-education. Although lifelong learning is known to have positive impact on one's employability, its efficiency is hard to prove.

Including employability within the curriculum is viewed as a best practice to promote employability among higher education institutions. Yorke and Knight (2006) have identified several ways in which employability can be developed through curricula:

- Work-based or work-related learning in parallel with the curriculum.
- Work-based or work-related learning partially incorporated within the curriculum
- Employability-related module(s) within the curriculum
- Employability in the core curriculum
- Employability through the whole curriculum: each student has to prove one's abilities in both general education and specialized subjects, such as: effective citizenship, social interaction, communication, problem solving, analysis, valuing in decision-making, global perspectives, and aesthetic responsiveness.

The continuous interaction between students and potential employers could be seen as a basis for increasing employability and efficiency of lifelong learning. Assuring graduate employability requires a strong and strengthened dialogue and communication between higher education institutions and their staff and labour market actors (EC, 2015). On one hand, higher education institutions have to respond to labour market needs, but on the other hand companies have to understand the mission of higher education, which is to prepare students with a solid educational background for long-term and not just for immediate business needs. There are various routes for collaboration between higher education institutions and employers, e.g. through the career services of the universities (which should have a proactive approach towards supporting the recruiting strategies of companies), through on-campus job fairs and workshops, through internships and mentoring of students (Pertuzé, et al, 2010). Technology-mediated communication is one of the solutions for dealing with these communication needs. Universities and companies have already defined strategies and developed different systems, including networks to foster cooperation and expand their geographic presence (Dascalu et al, 2015; Junco et al, 2016; Tess, P2013).

Nevertheless, Lowden, Hall, Elliot & Lewin (2011) underlined that there still is a lack of systematic practice to promote employability across higher education institutions, and made a set of recommendations such as: professors should be prepared to adapt the content of their courses and the way they deliver them based on employer suggestions; design of degree courses should be mapped to the business needs and result from a solid partnership between universities and companies; employability should be deeply embedded in the academic institutions' strategic planning; a structured approach to internships, placements and work-based learning opportunities of significant duration; the careers services in universities should be given more power to develop employability activities within faculties and the partnerships between universities and companies need to be effective, equitable and sustained.

This paper presents research aiming to check the feasibility of developing and deploying a social learning platform in the Danube Region of Europe. The Danube region is an important area of the European Union (EU), covering a fifth of the EU's surface and over 115 million inhabitants. The Danube region includes 14 countries: Austria, Bulgaria, Croatia, the Czech Republic, Hungary, a part of Germany (BadenWürttemberg and Bavaria), Romania, Slovakia, Slovenia, Bosnia and Herzegovina, Moldova, Montenegro, Serbia, and part of Ukraine, the regions along the Danube River. Our research was conducted in the project START-SoPI – “Feasibility Study on Implementing a Pan-European Social Platform to Support Lifelong Learning and Employability”, which represents a joint education project, carried out by partners from 3 countries: Romania, Serbia and Austria. The project was partly financed by START – Danube Region Project Fund, while START was financed by the European Union and the City of Vienna. The adopted research methodology is described in the section 2 of the paper and the main findings are presented in section 3. This paper also includes sections on conclusions and references.

THE RESEARCH METHODOLOGY

Our research started with the identification of the relevant stakeholders. Several stakeholder categories were initially considered, such as: students (graduates), professors, companies, recruiters, educational institutions/universities, existent e-communities, public administration and so on. Only four of them were included in this analysis, as the interaction with them provides enough input to establish the feasibility of the social media information system: students, professors, companies (here we included personnel from management, HR or operational), and educational institutions/universities (here we chose personnel from the career development center or related). We decided to focus our research on the IT sector.

The core of our methodology consists in performing structured interviews and online surveys. The interview questions and the questionnaires were defined using the input of the literature survey which was initially performed (figure 1). The structure of the online questionnaires was improved based on the answers received during the structured interviews. The paper presents only the qualitative research, conducted based on the structured interviews.

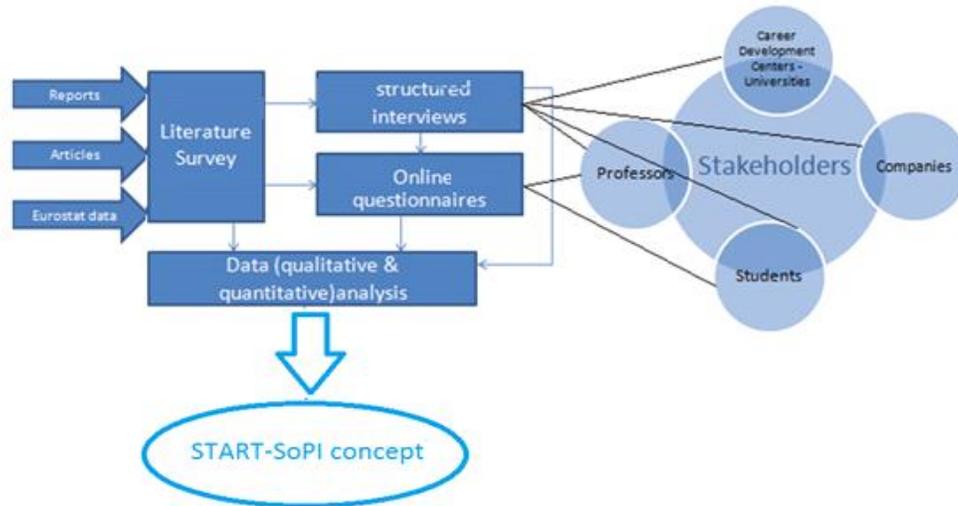


Figure 1. The research methodology

Face-to-face structured interviews were chosen as the research method. This type of interview was selected instead of semi- or unstructured interviews because it was considered as being more robust under the specific research conditions (three different interviewing teams with different experience and acting in parallel in three different countries). The decision to adopt a face-to-face procedure for these interviews was taken in order to better understand the answers and easier centralize and analyze all collected data.

The interview was designed to last one hour. Four interview sets of questions were designed, one for each stakeholder category. The interview questions for IT students were about the interviewee's profile (country, university, educational programme, level/year of study, job experience, knowledge about the career development services provided by the specialized center in the university, involvement in social networks and/or e-communities activities), the perceived level of employability at educational programme graduation, the perceived relevance of lifelong learning activities, and the intention to use a social learning platform to increase personal employability. The interview questions for IT professors were about the interviewee's profile (country, university, academic position, importance of students' employability, involvement in delivering lifelong learning activities, knowledge about the career development services provided by the specialized center in the university), perceived importance and methods for embedding employability into the curriculum, the usage of a learning management system and/or social networks in didactic activities, and the intention to adopt a social learning platform to increase employability. The interview questions for representatives of university career development centers were about the interviewee's profile (country, university, the students and companies interest for the services provided by the Career Development center, opinion about the concept of embedding employability into the curriculum), the services provided to the students in order to increase their employability, the perceived connection between lifelong learning

and employability and the opinion about a social learning platform to increase employability. The interview questions for the representatives of IT companies were about the interviewee's profile (country, company profile and dimension, experience in using social networks for personnel recruiting), the company recruiting practices, methods of employee evaluation and retention and the intention to adopt a social learning platform to increase employability.

Participant selection was performed locally by every interviewing team. Interview transcripts were analyzed locally and only the analysis results were sent to the project coordinator to be centralized and reported.

THE MAIN FINDINGS

Twenty-one structured interviews were performed in Romania, Serbia and Austria: 4 with IT companies, 5 with representatives/collaborators of career development centers from universities, 4 with IT professors, and 8 with students enrolled in a bachelor/master/PhD program.

Main findings from the interviews with IT company representatives

Four representatives of IT companies were interviewed and all of them came from multi-national companies, either SME or large corporations. Some of them acknowledged that they are using social networks in recruiting, but in a mixed approach, by combining the classic methods and social networks, in order to feel more comfortable. Only one respondent declared:

"I am mainly using my personal contacts, especially because I trust more in personal connections, which are of great importance within our long-term line of work."

According to respondents, one of the online recruiting methods which they applied is headhunting on LinkedIn. Other traditional methods are: organizing job fairs, college recruiting (student internships & scholarship programs), peer recommendations, visit universities for juniors, Yammer (enterprise social network), company websites, alumni club, head hunting for seniors. Most companies use professional social networks, e.g. LinkedIn (all), Facebook (not too often), Yammer, Glassdoor and BestJobs. The information they are looking for on social networks is candidate experience, education, mutual friends and if candidates have a blog. All companies declared that they currently pay or they are willing to pay for social network services (depending on ROI).

Regarding the training/learning opportunities offered to their employees, companies declared that they use e-learning platforms (e.g. Moodle), in-house professional courses provided by internal and external experts, conference workshops, summer schools, and soft skill courses. Some companies use MOOCs (Coursera, EdX, Lynda, Udemy, Stanford online, Open2Study). Not all respondents considered the initiative of developing a social learning information system to increase employability in the Danube region as being relevant. There are companies which express a preference for exclusively using their own internal learning platform:

"For recruiting purposes yes, but it would not be used for the further development of our own people".

Those who are interested in the development of a social learning information system proposed the following main characteristics and functionalities: management of mass job opportunities and filters for job applicants such as: years of experience, education, networking, languages, easier communication of the company needs to potential employees, better and more reliable and precise search engine, better matching between the candidates and the job ad description, uniformity in descriptions regarding the level and type of education; search by geographic location is too broad, and needs to be more deterministic, for example, to zoom in to town level.

Main findings from the interviews with specialists of the career development centers of universities

Five specialists were interviewed and most of them declared that students are generally interested and use the services of the Career Development Centers (CDCs), in particular those who are in their second or third year of study. Also, the companies show interest in using some of the services, such as: online job postings & access to databases, events, advertising, recruitment consulting (fitting for various businesses), assessment centers.

“Students are very interested to find a job. Companies are interested to offer a position for professional practices for students. Any medium that will help them to fulfill this goal is welcome”.

The Romanian respondents perceived the recruiting in IT as being a cyclic process: two or three consecutive years of intense recruitment by the big companies followed by the release of an important part of their employees. After 8-10 years, IT companies start another recruiting-releasing cycle.

Not all the respondents consider the initiative of developing a social learning information system to increase employability in the Danube region as being relevant, partially because there are already a lot of similar and mature platforms (e.g., in Romania there is the *Bestjobs* platform) and, in addition, to assure the sustainability of this kind of initiative requires a lot of time (around 5 years) for promotion and maintenance. However, there were respondents who consider that this kind of platform would facilitate the interconnection between several stakeholders and it would enable international collaborations.

As relevant characteristics and functionalities for a such platform, the respondents mentioned: to be informative, intuitive, proactive, and maybe with some elements of gamifications; to include some elements of games, contest, virtual teams for specific tasks, to assure communication between candidates and employers, to direct expose the job offers or desired profiles of the future employees, to offer advanced search facilities (for jobs, profiles etc.), tools for the competence attestation (skill voting, endorsement)

Main findings from the interviews with IT university professors

Four IT professors were interviewed, three of them being experienced professors and one being debutant. All declared that one of their goals is the increase of student employability.

“I discuss with my students what job/position they target and I personalize the didactic activities accordingly, based on a student-centered approach”.

“The most important duty of a faculty is to make graduates able to perform fine on the labor market”.

“Yes, it is important that they succeed on the job market. It is an essential part of life and sustaining themselves”.

“Employability is the essential interest for both me and my department. One of the ideas that I also nurture is that all the academicians teaching IT are deeply immersed into industry activities (often having a part-time engagement within a company). Companies contribute to our curriculums by adding topics, supporting new labs and accepting students for project work”.

Professors declared to know a little or nothing about the career development services provided by the specialized Center in the university. Respondents declared that their preferred teaching methods are: case studies and projects with topics chosen according to students’ interests, discussions, debates, group-based activities, learning through problem-solving and research, eventually on groups and participation to robotics clubs.

„My teaching approach is „partly lectures, partly assignments and, partly coaching”, especially for smaller and one-to-one teaching (e.g. thesis coordination). I enjoy to use relevant examples, because they bring to my students' face that “Aha!” impression. I am also working at the development of the analytical skills of my students, through problem decomposition and by starting talking about different topics in a natural, common language, and adding the required formalism only at the end. I know that analytical skills are very important in IT and the employers are looking for smart and very well prepared employee, with creativity but also with sound professional judgements”.

The respondents declared that usually they did not use social networks to connect with their students. Some of the reasons for not using them are: knowing too little about this topic, teaching effort increases and its usefulness is not fully justified. Most of the respondents were reluctant to the idea to grade their students based on their activities on social networks. Only one respondent acknowledged the existence of a positive correlation between the usage of social networks and academic achievement (grades) or employment status.

“Being active on social networks is typical behavior of an active and implicated person. The active students find easier a job or even create a start-up company.”

Regarding the intention to develop and use a social learning system in teaching activities, the respondents were rather reluctant, the usual comments being: *“possibly synergies could develop”*, or *“hearing about it now, it sounds appealing”*. Some desired characteristics and functionalities for a such platform are: features for increasing the students’/graduates’ visibility (CVs area and social profiles), access to online courses offered by universities, companies publishing the knowledge and skills requirements (the most important skills and knowledge as they consider and value in the recruiting processes), Moodle-like features, maybe with better customization, the possibility for virtual classes and labs, plagiarism detection, access to the research platforms, presentations of companies: for better recruitment practices, online Q&A live sessions and online tutorials. Such a platform could distill specific trends for specific areas.

Main findings from the interviews with IT students

Eight IT students from all three countries participated in interviews. They were PhD, master or bachelor students, in the last year of study. All of them had previous work experience. They declared that they found jobs using internships, Internet search, friend recommendation or job fairs found on Facebook. They declared to have some knowledge about CDSs, especially through students’ associations or no knowledge at all. All of them declared that they are active in social networks: Facebook, Myspace, Flickr, LinkedIn, Viber, Instagram, Twitter, Google+ (not more than 3 networks enumerated per student); searching on Google to find forums but not being active within those forums; specialized groups within social networks.

Regarding employability as one of the main achievements gained during the university study, the students, especially those from applied universities, considered that they had the chance to obtain solid and directly ‘deployable’ knowledge and considered that internships were very useful for developing their soft skills, mainly the teamwork skills. Several information systems were mentioned by students as being used in universities, such as: Moodle, TUWEL (a Moodle-like system) and Oracle learning platform. The most common activities performed using these platforms are: learning materials and homework posting and taking online tests. Students declared that the platform features for collaborative activities (group work, interactions, shared documents, virtual table, chats, etc) are not too much in use. Students declared that they didn’t use a social network to keep in touch with their professors, but they did it to connect with colleagues about regular class activities (to discuss what courses to do, to share experiences, organize ourselves to get in contact with the fellow students, to discuss problems through course, to put questions and provide answers, to share resources with colleagues, to check the availability to come at classes; to chat, to transfer documents.

„Yes, I spend too much time on the social networks!! But it is important especially when you are searching for a job”.

„Through the permanent exchange of experiences and information more people are or become aware of certain paradigms. Ideally, it helps to make people aware that life is a development process.”

All students considered the initiative of developing of a social learning information system to increase employability in the Danube region as being relevant. However, not all the architectural and functional solutions could be acceptable.

“Yes, I would like to use a such platform, but it depends on how it will be developed. A such platform should assure Connection between various disciplines, to assure an inter- or trans-disciplinary exchange, to assure the connection between the relevant actors (companies, students, professors). Otherwise, we can use stackoverflow.com. instead”.

Students proposed several expected/desirable characteristics and functionalities of the platform, such as: to offer good possibilities to work together (different interaction possibilities, more than just text, shared documents, various media: e.g. holograms, integration with Skype or similar), multiple perspectives on certain problems (companies, students, professors), software stability and easy to use, security, friendly interface, permanent access, promotion, visibility of the students/graduates' skills and knowledge, by allowing CVs posting and job offers, to offer free educational resources and information about the fee-based courses of the universities, vocational counseling (tests for recommending jobs). The professors should be able to recommend students by voting in favor of their skills. The professors/universities should be more active in supporting the students/graduates during the process of getting a job. The companies should also be able to post their announcements and to see who visualized them; and then have the possibility to contact those persons. The profile should be monitored. The Moodle profile is not efficient; the profile should be built through a form or through uploading a CV. The platform should allow sending e-mails or notifications, like Junio or Hipo and should allow an increased degree of personalization. Students consider that such platform could be a high success in connecting students, universities and companies.

“Interactivity, curiosity and thirst for knowledge, information, should be enough to make anyone use such a platform. It is entirely realistic, even if it is ambitious project. It is an example of a very scalable project, it is doable. It can be funded through accelerators, like a start-up. There are already some in our area”.

These findings are slightly different from those obtained by interviewing the professors.

CONCLUSIONS

This qualitative research targeted four relevant stakeholder categories: students, professors, HR managers from companies and personnel from the career development centers from educational institutions/universities. A common theme of all interviews with these four categories of stakeholders was the intention to adopt/use a social learning platform in order to assure an increase in graduate employability.

The study conclusions reveal that the relevant stakeholders have slight different opinions about the initiative of developing a social media information system in a European region for enhancing graduate employability in that region, mainly due to the different level of experience in using social media. The companies expressed their intentions not to interfere with universities' e-learning environment, not even for the recruitment purpose. In the same time, universities showed interest for any type of continuous involvement on the professional development of their graduates, including the initiative of extending their traditional learning space towards social networks. Students are in favor of this initiative, acknowledging the positive effects on their employability, and are willing to contribute directly at the development and the implementation of such platform. Professors are also in favor of this initiative, but they are reluctant to declare their intention to adopt this kind of solution in the regular teaching and learning activities.

The number of interviews was relatively small. For this reason, it was decided to conduct two online surveys, one for IT students and one for IT professors. All findings will be triangulated with the conclusions of the literature review. Additional rounds of interviews and a focus group were also scheduled, in order to collect additional information for checking the feasibility of developing and deploying a social learning platform in the Danube Region of Europe.

ACKNOWLEDGEMENTS

The work has received funding from the grant agreement No. 16_PA07-C2, START-SoPI, “Feasibility Study on Implementing a Pan-European Social Platform to Support Lifelong Learning and Employability”. SoPI is part financed by START – Danube Region Project Fund, an initiative for the Danube Region Strategy. START is financed by the European Union and the City of Vienna.

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