Impact of LinkedIn on Boosting Students' Learning Motivation and Career Prospects

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Abstract—**This study aims at evaluating the impact of the professional network LinkedIn on students' motivation and learning performance and on boosting their career prospects. This paper's main contribution is to apply Data Envelopment Analysis to demonstrate that student's learning motivation, communication, and writing skills can be improved by using LinkedIn.**

Keywords-Data envelopment analysis; LinkedIn; Malmquist index; professional network.

I.   INTRODUCTION

There are around 160 Higher Educational Institutions in Taiwan for a population of 23 million; however, the birthrate is the lowest in the world, which will inevitably cause damage to Taiwanese society, economy, and education system [1]. As a result, students will find it increasingly difficult to graduate (higher tuition fee, more competition) and to be hired (higher unemployment, notably in the sector of education). Professional networking might be a way for students to develop their skills, their motivation, and to boost their career prospects. However, a rapid search on the Internet shows that a surprisingly small number of Taiwanese teachers and students have their profile on LinkedIn, the world's largest professional network. We have begun a study aimed not only at analyzing the present situation, but also at encouraging students to connect in order to improve their writing and communication skills, to increase their learning motivation, and to boost their chances on the job market. In that matter, so far, academic research on LinkedIn is scarce. However, this field of study is very promising in Taiwan and in other countries facing lowering student enrollment, higher graduate unemployment, credential inflation, and even department or university closure.

This paper presents some publications related to networking and to the selected evaluation method (Data Envelopment Analysis [1, 11, 12, 13, 15] and Malmquist index [13, 19]) in the literature review. The next section presents the objectives, methodology, and data source. The discussion is preliminary and can only present the expected results as we are still in the process of collecting the data.

II.   LITERATURE REVIEW

A.   Professional networking

Rosenfeld defines a network as a place where "the members choose each other, for a variety of reasons; they agree explicitly to co-operate in some way and to depend on each other to some extent." [2].

In the first decade of the twenty-first century, hundreds of social and professional networks have been created online, with more or less success. MySpace, Facebook, Twitter, and LinkedIn are obviously among the most famous. LinkedIn is a business-oriented social networking site founded at the end of 2002 and launched officially on May 5, 2003, that is, more than 10 years ago. Data about how many professionals are connected vary widely; LinkedIn reports more than 200 million in more than 200 countries and territories (including 74 millions in the US); the largest industries were at the beginning of 2013 information technology and services, financial services, higher education, and computer software [3]. Forbes states that LinkedIn is nowadays the most advantageous social networking tool available to job seekers and business professionals [4].

Many articles in newspapers [5], books [6, 7, 8], and portals [9] focus on how to help students finding a job. But, very little has been published so far in academic journals about professional networking and how it can boost students' career plan. A study published in 2009 [10] shows that on the question "How beneficial would a graduate-level professional networking course be to helping you improve your skills?" 34 % of the students interviewed answered "somewhat beneficial", 32% "beneficial", 18% "very beneficial", and 8 % "invaluable". Moreover, thirty-one percent of elite professionals spend one to two hours each week networking. Clearly, it takes time to build connections and make friends. Professional networking is a long-term investment, but twenty-seven percent of respondents network only when there is an immediate need, such as when starting a job search [10].

B.   Data Envelopment Analysis and Malmquist index

We are now in the process of collecting the data necessary for this study. He expects to apply Data Envelopment Analysis (DEA), which is a quantitative evaluation method that can evaluate the relative performance of units called Decision Making Units (DMUs). There is a large body of literature on application of DEA in various fields, including education [11, 12]. Various studies evaluate the performance of departments [13, 14], classes [15], or individual students [16]. We have demonstrated the reliability and relevance of applying DEA in various academics papers, such as [17][18].

Malmquist index, a bilateral index defined by Caves et al. [19], has notably been applied in the field of education [13].

This index can help measure and analyze the improvement in motivation and learning over a period of time, e.g., from the time students register on LinkedIn to the time they find a job. By combining DEA with Malmquist index, this study will show the evolution of students' motivation, of their scores, and of their participation to LinkedIn from February to June 2013. This study is a work in progress and more time is needed to collect, run, and analyze the data.

III. METHODOLOGY

A. Research Issue

In February 2013, Maclean's Magazine in Toronto published an article stating that Higher Educational Institutions do very little to help students plan for future careers [5]. Some students feel that teachers and universities don't do enough to help them connect to the market place. Perhaps, in times of economic crisis, HEIs should offer more concrete career advice and help students post their profile on professional networks (as to February 2013, on more than 11,000 students at our university, less than 10 had a profile on LinkedIn and few of the students interviewed so far had heard about the network). Nowadays, social and professional networks are a great and fast growing place where people can connect and boost their career prospects. Students are often clueless about future pay and job prospects. Surprisingly, they know little about how to build their network and how recruiting works.

B. Research objectives

This research explores a number of issues in relation to networking practices. The objectives of the research are as follows:

- Observe the state and evolution of students' motivation from the beginning to the end of the semester;
- Ascertain the perceived understanding of networking by Taiwanese students;
- Explore how students form, maintain and develop their network and
- Follow students from the moment they register on LinkedIn; see if they can ultimately find a job.

C. Research methodology

The research methodology for this study is both qualitative and quantitative. At the beginning of the semester, students answer a questionnaire we have designed. This questionnaire includes 20 questions concerning students' knowledge about and participation to social and professional networks. Some questions are related to indicators of good teaching. Students can rank which indicators they feel are the most important (such as fair grading, being supportive, communication skill, teaching contents, etc.). The research methodology is also quantitative and DEA combined with Malmquist index will assess the progress and motivation of students from the beginning (period 1) to the end of the semester (period 2). Some of the indicators include the number of connections and the number of groups students follow or create on LinkedIn, scores

during the semester (notably evaluation of their resume, portfolio, and profile), and students' evaluation of teaching.

D. The data source

The study case is a private church-sponsored university in Taiwan. Preliminary data consist of four classes of students (sophomore to senior students from various departments). Later on, a larger number of classes will participate to the study. We will follow students from the moment they register to LinkedIn to their first job offers.

IV. PRELIMINARY RESULTS AND DISCUSSION

Out of 11,000 students at our university, less than 10 had a profile on LinkedIn. As to March 2013, there were 81 followers of the institution, mostly registered teachers, staff members, and students from the university. All included, only 73 people had registered, often with an empty profile; that is, no picture, no information about education, experience, interests, and almost no connections.

We propose to define three steps in order to help students boost their career on LinkedIn:

1. We register first and connect to a large number of universities, companies, and recruiting agencies around the world. We registered on LinkedIn on February 12, 2013. One month later, he had more than 350 connections (more than 50 in Taiwan, same in Japan, 27 in China, and many in the US, England, France, etc.), many recommendations and endorsements from colleagues. As to July 2013, we had 1370 connections and we were linked to 12 million people.
2. We help students register and create their profile (developing their writing and communication skills). We create a discussion group on LinkedIn including all the students registered and we invite teachers and professionals to join. The group has been created in March 2013. It is called "The Student Connection".
3. We help students build connections according to their skills, interests, and career plan. The teacher can here recommend students and endorse their skills. One of the students has already 90 connections and many skills endorsed. We have accepted to recommend him.

A. Some preliminary results

On 93 students who responded to a questionnaire at the beginning of March 2013:

- 23 had heard about LinkedIn.
- 80 thought about going online to look for a job.
- 91 had a Facebook account.
- Only 13 used Twitter.
- 23 had penpals abroad.
- 24 ran a website.
- 25 were blogging.
- 62 thought their teachers were helping students enough to connect to companies.

We additionally asked 26 students coming from various departments at a national university in Taiwan to fill the questionnaire. 100% of the respondents answered yes to the

question "Do you have a Facebook account?" Students enjoy social networking, but don't consider it might help them find a job. Only 6 students had heard about LinkedIn (including 2 who already had a profile) and only 5 were using Twitter.

B. Discussion

In order for this research to become reliable, we will improve the questionnaire, interview thousands of students, and analyze the data by using SPSS, DEA model, and Malmquist index. So far, the number of students who responded to the questionnaire is too small to draw reliable conclusions; however, some trends appear: even though almost all the students use Facebook, few of them are connected to LinkedIn. Most students seem to be unaware of the fact that CEOs and recruiting agencies are now using LinkedIn to hire graduates. Only 10 out of 93 students who answered the questionnaire said they have a very good idea about what job they want to do after graduation.

This study expects to show that:

- Student's learning motivation will increase if they built a professional network and connect with CEOs and recruiting agencies;
- Students' grades in English writing will improve by using the network and by communicating with people around the world in English;
- Students' connections will help them to have a better understanding of the current job market and of what employers are expecting from graduates (employability skills);
- Undergraduate students will increase their chances to enter a graduate school in Taiwan or abroad by connecting to professors in their field of research;
- Some students participating to this study will eventually find a job with the help of their connections.

This is obviously a preliminary research, and it appears that more time is needed to introduce LinkedIn to workers and students at the institution studied in this paper and to analyze the impact of having new members registered.

V. CONCLUSION AND FUTURE WORK

Even though many university educators share their well-designed profile on LinkedIn, they rarely invite their students to connect. Most students are clueless about how to make their profile and about what good can come out of joining the network. Out of 11,000 students at our university, less than 10 had a profile on LinkedIn and almost none of the students interviewed so far had heard about it. In March 2013, around 100 more students connected and learned how to use LinkedIn in order not only to improve their English, but to boost their career prospects. From March 2013 on, we will follow and guide them and many other students to observe their progress in writing and communication skills, hoping for the best, that is, job offers. Clearly, there is little academic research done on LinkedIn and its impact on students' motivation and career prospects. According to a recent article [20], 97 percent of recruiters are using

LinkedIn to find new employees, while only 27 percent are using Twitter and just 22 percent turn to Facebook as a source for recruiting.

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