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MONITORING OF PROFESSIONAL INTEGRATION OF HIGHER EDUCATION GRADUATES: A SURVEY IN THE PROJECT MANAGEMENT DEPARTMENT

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ABSTRACT
The professional integration of graduates is a key indicator of the quality and relevance of university curricula. This paper analyses a tracking review of graduates of the project management course at the University of Constantine 3. It is based on a survey conducted over a number of years among graduates of this course since the first class graduated. This study provides an overview of the program after 13 years. The preliminary results obtained, although partial, reveal a satisfactory rate of employability among graduates, as well as a diversity of choices in terms of sectors of activity and places of work. These observations provide an interesting insight into the career paths of former students. In addition, this longitudinal study provides pertinent points of reflection for the continuous improvement of training offers in order to better respond to the evolving requirements of the labor market and the competencies targeted by employers.

KEYWORDS
Professional Integration, Labor Market, Career Path, University Training, Project Management, Survey.


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Introduction.
Graduation, or the day on which students receive their diplomas, marks a decisive turning point in their academic career and heralds a milestone for them as they are taking the first step into the professional world that is increasingly competitive.

The requirements of the latter must be taken into consideration within the student's curriculum in order to ensure successful professional integration after the graduation. Indeed, a high rate of employability is a goal aimed for by university programs and is considered as an indicator of the quality and relevance of these programs. Furthermore, it is becoming an important criterion for international university rankings.
The reform that higher education systems underwent following the Bologna Process has led to several changes and aimed for several objectives, including the implementation of a system based essentially on three cycles: the LMD system Licence - Master – Doctorate (Delpouve, 2015). In a quality assurance approach, this system has adopted graduates’ employability as a vital concern, aiming to bring the academic world closer to the realities and requirements of the professional world (Sursock & Smidt, 2010) (Kadri, Sassi Boudemagh, & Kadri, 2018).

Following the implementation of this system in Algeria, the University of Constantine 3 launched in 2006 a range of professional training courses in project management. A true pioneer at national level, this university was among the first institutions to position itself in this emerging field. The training program comes in response to the needs of the Algerian labor market in search of specific competencies in the field of construction project management.

The field of project management occupies a crucial place in today’s professional landscape, where the ability to plan, execute and deliver projects within stipulated timeframes and budgets has become an imperative for organizational success, leading to the necessity of the highly important professional recognition of the project manager (Turner & Müller, 2003). In this dynamic context, the employability of project management students has become a major concern, both for higher education institutions and professionals in the sector.

However, despite the growing importance given to project management training, questions remain regarding the adequacy between the competencies acquired in an academic environment and the expectations of employers.

Indeed, for young project management graduates, this transition to the labor market represents a particular issue. Thus, the success of their professional integration constitutes a major challenge, especially for the first graduating classes of a relatively recent program. In this context, the present study examines the results of a survey on the professional integration of project management students, based on data collected over eight years.

Literature review.

The question of the employability of higher education graduates is at the centre of the current concerns of universities and companies. The work of (Benaissa & Benmimoun, 2021) attempted to answer the question: how can we intervene to promote the professional integration of university graduates? The authors have tried to dissect the process that leads to successful integration by examining the different concepts inherent in employability, professional integration and the competencies that ensure the employability of young graduates.

Recent developments in the labour market, marked by digital disruption and accelerating economic mutations, mean that initial training approaches need to be rethought in depth. The literature review highlights a number of key challenges and trends that need to be considered.

A large body of recent research has highlighted the benefits of professional training in enhancing the employability of higher education graduates, such as the work of Giret (2018) who has analysed the complementarity and strong link between professionalisation and employability (Giret, 2018). The professionalisation of training involves several changes in order to prepare students for the professional world. The key elements of these changes include translating theoretical knowledge into practical competencies and increasing the number of professional internships (Hutmacher, 2001). In fact, a key vector of professionalisation lies in work-study systems and in-company internships. These immersions enable not only practical know-how to be acquired, but also crucial soft skills to be developed.

The acquisition of operational competencies that are directly transferable to the company is a major asset in facilitating professional integration, as highlighted by Giret and Issehane (2012). These authors demonstrate that training courses based on the realities of the professional field, through real-life situations, better prepare students for the demands of the job market (Giret & Issehane, 2012). Taking a competence-based approach to human resource management, the work of (Van Der Heijde & Van Der Heijden, 2006) proposed an instrument for measuring employability. Composed of 5 dimensions, the instrument draws on professional expertise, which is complemented by generic competencies.

In addition to specific competencies, employers require cross-disciplinary competencies (communication, project management, problem-solving, teamwork, etc.) if they are to obtain the job. Several papers have dealt with the important role of cross-curricular competencies (non-academic
competencies) as capital to be acquired to facilitate professional integration (Nohu, 2018). They have analysed the fit between non-academic skills developed while studying and those skills thought to be useful or necessary to access a first job (Morlaix & Nesha, 2019). Other works have highlighted the role of these skills in graduates' career paths (Berthaud, 2021). The work of the latter is based on a synthesis of three studies, including that of (Morlaix & Nesha, 2019).

At the same time, some researchers are calling for a broader concept of competencies. Faced with a job sector that is constantly changing and being shaken up by digital transitions, future graduates need to be equipped with the ability of adaptability, agility, creativity, change management and continuous learning. The work of (Saint-Germes, 2021) deals with creativity as a key competence for employability, which has been included in the key interprofessional competencies reference frameworks since 2000, while positioning it in an era of artificial intelligence.

Before presenting the methodology of this work, it is worth explaining the difference between employability and professional integration. Employability is defined by Hillage and Pollard (1998) as the capability to gain initial employment, maintain employment and develop professionally, and obtain new employment if required (Hillage & Pollard, 1998). Whereas professional integration, as defined by Vincens (1997), can be summed up as access to a stable employment corresponding to the training and providing a suitable salary (Vincens, 1997). The adequacy of the job with the training is what interests us in this work.

**Materials and Methods.**

The methodology followed in this research is based on an iterative approach whose starting point is data collection through a survey of graduates. The analysis and interpretation of information continuously feeds and enriches the updated training reports each year. These constitute the starting point for the work of the following year... Thus, the process restarts cyclically, each time integrating the new data collected from former students while adopting a continuous improvement approach.

**Data collection methods.**

The adopted approach is essentially based on maintaining contact with graduates through various opportunities and possibilities:

- Graduation ceremonies: Lists taken from the registers filled in by graduates (using information provided by themselves) when they received their diplomas, made it easier for us to find their contact details afterwards.
- Event organization: The attendance lists at events organized by the AVMF laboratory and/or project management department are exploited each time to collect the students’ contact information in order to stay in touch with them. On several occasions, graduates have been invited to share their feedback and experiences.
- Social networks: Pages and groups have been created by several graduating classes. These online spaces allowed us to post our requests and maintain contact. Following the creation of the department, a dedicated page was also set up, which presently brings together all current and outgoing promotions.

In addition to the contact details collected through these opportunities, some students have kept up the habit of contacting us by phone or personal/professional email. These “facilitator” students have made a major contribution to disseminating the work among their former classmates.

**Data collection.**

Students were contacted via the various channels previously mentioned. They were asked to provide us with information about their career path since graduation. An example of a table previously filled in by a graduate (the table below) was provided to them in order to have a clear idea of what was required and to comply with our request.

The collected data was transcribed into a global table referring to the lists of students obtained from the department's academic affairs. As such, the table is categorized by academic year, from the graduation of the first class in 2011 up to 2018.
Table 1. Example of a table provided to graduates.

<table>
<thead>
<tr>
<th>Academic year</th>
<th>Nº</th>
<th>Last name / First name</th>
<th>Previous experience</th>
<th>Currently</th>
<th>Location / Country</th>
<th>Year of integration of current position</th>
</tr>
</thead>
</table>

Source: Field survey, Authors.

Results.
Out of all the graduates, 151 responses were received; representing a response rate equal to 44.54%. The employment status of the contacted graduates is summarized by graduating class in the figure below.

Figure 1. Employability of graduates by graduating class.

Source: Field survey, Authors.
Work, study, other: the graduate's choice.

According to the detailed results in Table 2, the employment rate of graduates is generally satisfactory: 70.2% of respondents are professionally integrated, testifying the good employability of the training program.

Additionally, a non-negligible proportion, precisely 19.87% of graduates chose to pursue doctoral studies in Algeria or training abroad. This choice can be explained, on one hand, by a marked interest in academic research and could be justified by the attractiveness of higher education sector in Algeria, often perceived as a stable and rewarding job. Indeed, a career in university teaching is seen as a "sure" and respected opportunity.

On the other hand, this choice may also be motivated by a lack of professional prospects deemed satisfactory by these graduates in the national market. However, this percentage of doctoral students can potentially be recovered by the training program itself once their theses are defended, given that obtaining a doctorate opens the door for positions as teacher and researcher at Algerian universities.

Up until the writing of this paper, 6 doctors from this training program have been recruited as full teachers in the same department, and 3 others are at other universities nationwide.

However, we can observe that 9.93% of the respondents have opted for other life projects (personal or professional but outside of their studies and specialties).

Table 2. Career opportunities for project management graduates.

<table>
<thead>
<tr>
<th>Year</th>
<th>Doctoral students</th>
<th>Private employer (National)</th>
<th>Private employer (Multinational)</th>
<th>Public employer</th>
<th>Setting up their own company</th>
<th>Working abroad</th>
<th>Teaching (other than doctoral students)</th>
<th>Studying abroad</th>
<th>Other life projects</th>
<th>No information</th>
<th>Actual number of graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>15</td>
<td>33</td>
</tr>
<tr>
<td>2011-2012</td>
<td>5</td>
<td>8</td>
<td>0</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>45</td>
</tr>
<tr>
<td>2012-2013</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>27</td>
<td>56</td>
</tr>
<tr>
<td>2013-2014</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>23</td>
<td>55</td>
</tr>
<tr>
<td>2014-2015</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>34</td>
<td>39</td>
</tr>
<tr>
<td>2015-2016</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td>2016-2017</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>25</td>
<td>39</td>
</tr>
<tr>
<td>2017-2018</td>
<td>0</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>TOTAL</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>0</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>188</td>
<td>339</td>
</tr>
</tbody>
</table>

Source: Field survey, Authors.

Distribution of active graduates.

The distribution by sector of activity shows a predominance of the private sector (national and multinational) with a percentage equal to 36.42% (31.79% for national companies and 4.64% for multinational ones) compared to the public sector with 18.54%. This can be explained by the current opportunities and demand in the Algerian labor market. Indeed, the public sector – the traditional employer of university graduates – has given way to the private sector, which is increasingly recruiting an important number while demanding high-quality training.
In addition to these percentages, it is appropriate to add:

- 3.97% of the respondents who chose to work abroad (most often in the private sector). This percentage corresponds to graduates who have settled in another country and have been able to secure employment matching with their academic qualifications;
- 4.64% who perform teaching activities, either as part-time lecturers at universities or as teachers in various educational institutions. It should be noted that this percentage does not include doctoral students who are called upon to teach at the university alongside their doctoral studies;
- 6.62% who have set up their own businesses. This relatively low percentage may indicate either a lack of entrepreneurial spirit among graduates or difficulties in accessing the necessary funding and support. It should be noted that in recent years, the Algerian university has strongly encouraged the creation of start-ups and SMEs by students during their studies or as a culmination of their education. However, this result indicates that this entrepreneurial focus has not been fully realized by graduates of this program.

![Figure 2. Breakdown of career opportunities for project management graduates.](image)

**Source:** Field survey, Authors.

**Discussion.**

By adopting the survey and exploiting various sources of information, this study has been able to produce detailed statistics on integration rates, types of jobs held, and sectors of activity. These data are essential for assessing the alignment between the training provided and the real needs of the labor market.

The results revealed a high professional insertion rate equal to 70.2% and a significant percentage of 19.87% for graduates currently pursuing further studies. Combined, these two categories represent a majority percentage equal to 90.07% of the respondents, representing active graduates or those pursuing additional and/or higher studies, and confirming the good employability of the program on one hand, and its dynamic and multidisciplinary character on the other. Indeed, the cross-disciplinary aspect of the curriculum promotes openness to other fields of study and offers students the opportunity to specialize further after graduation.

In this context, and starting from the year 2019, a certain number of students have been opted for national mobility made possible by the recognition of the diplomas of this training. These students have chosen the following schools:

- The national higher school of management (Tipaza): admission is guaranteed with a bachelor's degree.
- The national school of engineers of the city (Tlemcen), under the supervision of the ministry of the interior, local authorities, and spatial planning: admission is guaranteed with a Master's degree.
This graduate tracking initiative has revealed some strengths of the program, particularly in terms of acquiring professional competencies sought after by employers. The example of the growing number of graduates passing the exam and obtaining PMI certification illustrates the force of this training, not to mention the graduates' desire to progress in their professional careers.

Although the overall results are positive, this research highlights potential areas for improvement in the training offers. An in-depth examination of specific and transversal competencies expected by employers, greater awareness of entrepreneurship, as well as enhanced support towards professional integration, would further enhance the future professional integration of graduates and consolidate the adequacy of the training with labor market expectations.

Conclusions.

The results of this study provide an interesting insight into the employability of graduates from the project management department at the University of Constantine 3. The high rate of professional integration attests to good overall employability in the labor market. However, this figure conceals different realities according to sectors and individual career paths. Areas for improvement have also been identified, such as strengthening entrepreneurial spirit, better matching with the specific needs of labor market, and better support for professional integration.

It is important to note that this work has been carried out in a particularly difficult context. Some of the challenges faced include:

- This research was carried out as a result of a completely personal initiative by the pedagogical team (the authors), but in reality, the work requires a monitoring structure, such as an observatory of professional integration and the alumni network. The observatory (with its staff) is responsible for collecting and analysing data on the career paths of former students. With all the logistics at its disposal and the surveys conducted, it can identify trends and growth sectors. At the same time, the alumni network, which brings together all former graduates, enables networking and mentoring, offering opportunities for professional contacts and employment. These two structures can create a synergy that improves the professional integration of young graduates. In the absence of these structures, the pedagogical team has tried to fulfil their missions, but despite the various possibilities cited in the methodology, access to graduates (and to the data as a result) has proven to be more complex than expected, requiring time, special attention and continuous adjustment of information.
- One of the main limitations of this study lies in the difficulties encountered in collecting exhaustive data, with nearly 20% of the total number of graduates for whom no information could be collected, ranging from lack of contact to refusal to respond. This highlights the need to set up a monitoring system along the lines of the structures proposed in the previous paragraph;
- This paper has set out the statistics and results based on employing structures and has not exploited the available data regarding the positions held by graduates and their nomenclature. In-depth exploration of this information could refine the study and provide a detailed overview of the evolution in positions and career progression. The collected information can be processed in future works.

In conclusion, this study has made it possible to draw up a useful overview of the professional integration of graduates, to list the different career opportunities and to identify potential areas for progress. Despite the mentioned limitations, the obtained results would offer new avenues for reflection. Indeed, this work highlights the importance of pursuing further research in this field. A detailed analysis of the positions held, even if it is not detailed here, would provide a rich source of information for assessing the match between training and the jobs actually performed.

The approach adopted in this work has, on the one hand, encouraged regular monitoring of graduates' career paths and their progress, and on the other hand, it has introduced a process of regular evaluation and adaptation of the training in order to ensure that it is in line with the concrete needs of the professional world, while at the same time considering feedback from graduates. As a result, graduates feel involved in the training, supported and accompanied beyond their academic curriculum...

By identifying the most valued competencies by employers, the continuous adaptation of training will be ensured to better meet the requirements of the labor market and to maximize the future employability of students. This study thus paves the way for a strategic reflection on the evolution of the training program, in consultation with all stakeholders.
Acknowledgments.
We are deeply grateful to all former students of the various classes for their efficient collaboration. We would also like to express our sincere thanks to the entire staff of the project management department.

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