

The Contribution of the Higher Education Institution For the Qualified Workforce

PAULO Helena; Polytechnic Institute of Bragança; Bragança-Portugal; helenapaulo@ipb.pt

FERNANDES Paula Odete¹; UNIAG; Polytechnic Institute of Bragança; Bragança-Portugal;
pof@ipb.pt

PAIS Luís Santos; Polytechnic Institute of Bragança; Bragança-Portugal; pais@ipb.pt

Abstract

Covering the different employers sectors of the Northern region of Portugal, namely in the NUT III of *Alto Tâmega, Tâmega e Sousa, Terras de Trás-os-Montes* and *Douro* and focusing in particular on the higher education offered by the Polytechnic Institute of *Bragança*, the present research aimed to know the means and practices of recruitment and selection of graduates, and respective soft skills recognized by the enterprises for their body management. For this purpose, two surveys were run, one applied to entrepreneurs in the region under study, and another to the graduates. In total, 172 questionnaires were collected, 92 by enterprises and 80 by graduates. Regarding to the results obtained, it is generally accepted that they are favourable from the point of view of the employer and the graduate. The organizational practice of recruiting graduates; both monthly remuneration and professional training are shown to be consensual regarding flexibilisation and precariousness. It should also be noted that both companies and graduates have stated a shortage of soft skills. It was verified that although there is already some proximity between the Polytechnic Institute of *Bragança* and the market labour, it can adopt: measures to improve and adapt education to the labour market; such as establishing connection and/or cooperation with companies in the region; the promotion of internships during undergraduate courses; regularly assess the adequacy of graduations to the labour market and encourage and promote the entrepreneurship.

Keywords: Employability, Higher Education, Labour Market, IPB, Graduate

Introduction

In the last years, Higher Education Institutions (HEIs) have paid special attention to the issue of the graduates in the labor market. In fact, the measurement of employability deserves a specific treatment, since along to the problems of definition and delimitation of the concept, there are no universally established conventions and methodologies. Actually, there are moments of concern regarding the employability of skilled workers, particularly due to the economic situation that has been observed in recent years and the increasing technological evolution (among other factors) (Vieira & Marques, 2014).

The term "employability" emerged gradually with social and technological evolution. The economic, political and cultural crisis of the 1960s, especially reflected in the students' revolution, as well as the oil crisis of the 1970s, led to a reorganization both in terms of the qualification of the top executives who felt they needed to improve their knowledge, and at the level of the individual formation of higher schools, who felt pressure to prepare their students for this new reality (Gazier, 1990). With the technological revolution of the 1980s, the term "employability" adopted an individual responsibility – "employability of initiative" – where graduates see their qualifications not as a direct measure of attainment of employment, but as an opportunity for specialization that requires continuous training in order to not be excluded. Moreover, given the continuous fluctuations of the external labor market, there is need for flexible action on the part of the workers. This perspective of "interactive employability" was the basis for the multidimensional approach to employability

¹ Corresponding author.

proposed by McQuaid and Lindsay in 2005 and Fraga in 2012, where individual, personal and external factors interact with each other. In the perspective of researchers linked with work psychology and organizational behavior (Fugate & Kinicki, 2008), the employability approach can be analyzed at two levels, internally (or macro) and externally (individual perception), which reflect the individual and external factors earlier proposed by McQuaid and Lindsay (2005). In another words, employability is defined "internally" by the feeling of a worker that he has career opportunities in his current workplace (skills, know-how), which can generate higher levels of satisfaction and implication or affective commitment with the organization (values, environment). "Externally", employability refers to the perception by the worker of its value in the labor market, generating attitudes of professional confidence and high levels of motivation (qualitative aspects) and allowing higher job security, by the possibility of easily find another job in case of an unforeseen situation of link (quantitative aspects) (Cesário, 2013, pp. 28-34).

At the beginning of the last decade, employability has played an important role in the measurement of workers' attitudes, in order to understanding the impact of human resources management (HRM) practices on workers' high insecurity. There are several studies on this issue, overall showing that if the worker is strongly motivated this will translate into high levels of commitment and, consequently, high satisfaction and effective commitment with the organization, which translates into a positive individual effect (Connelly & Gallagher, 2004), and therefore in high internal employability. Along with this, even if the worker sees his job position compromised by a paradigm of high employability, his motivation for an alternative employment in another organization will continue to be high and with high expectations, which translates into a high external employability perception (Hillage & Pollard, 1998).

Generally speaking, employability is based both in individual strategies and in the public policies of the markets and organizations, where adaptability, flexibility and dynamics are fundamental elements in the individual to achieve job opportunities (Marques, 2007).

According to Cesário (2013, p.33), "there are no longer excuses for HRM not to measure the perception of the degree of employability of the workers". One of the earliest measurement systems called the "Employment Outlook" (from the "Career Outlook Survey") emerged in the late 20th century. This model has been the basis for several studies and adapted over time, taking into account the theory of its items and the theory of vocational development (reviewed by Taveira (1997)). More recently, the "Job Insecurity Scale", with only four items, was developed by De Witte and validated by Vander Elst (2014) (De Cuyper, Notelaers, & De Witte, 2009; Vander Elst, De Witte, & De Cuyper, 2014).

It is therefore understood, that more and more organizations should develop practices that take into account the promotion of the employability of their employees, regardless of the contractual link, as well as promote and develop continuous training, which will result in an increase in personal skills, thus increasing the employability degree of its employees, both internally and externally (Campos & Freitas, 2008).

In Portugal, there are few studies on the impact of HEIs on skilled workers from the perspective of the employer, with only a few studies of academic nature that have tried to fill this gap. One of those studies, the "MeIntegra" study (Marques, 2007), whose models explored the impact of the University of Minho in the employability in the respective surrounding territory, aroused the interest for the application of the same models to the present investigation.

The aim of the present study was to evaluate from the perspective of the employer, the compliance of the Polytechnic Institute of Bragança (IPB), as a trainer of skilled labor, with the needs of the companies of the NUT III region, in the period between 2010 and 2015. Thus, taking into account the various sectors of activity in the Northern region of Portugal, namely in the regions of *Alto Tâmega*, *Tâmega* and *Sousa*, *Terras de Trás-os-Montes* and *Douro*, and focusing in particular on the higher education conferred by this Institute, the present research aims to know the employability of young graduates from various fields of study and to learn about the different ways of insertion in companies, particularly regarding recruitment and selection practices.

Methodology

To evaluate the contribution of the IPB to the skilled labor of the NUT III Region of Portugal, namely the *Alto Tâmega*, *Tâmega* and *Sousa*, *Terras de Trás-os-Montes* and *Douro*, we analyzed the trajectories of professional integration of the IPB graduates, as well as to correlate the resource mobilization strategies taken by the companies and the graduates in search of the first job.

For this study it was considered that the questionnaire survey would be the most appropriate research instrument. The questionnaire addressed to the employers contained 39 questions divided into five sets while the questionnaire addressed to the graduates contained 17 questions divided in two sets. In both questionnaires, answers were measured on a Likert scale, where 1 is the most favorable and 5 is the least favorable.

The target universe of the territorial units corresponding to Alto Tâmega, Tâmega and Sousa and Terras de Trás-os-Montes and Douro (NUT III), was defined considering that they constitute the reference area of most of the graduates of the PIB for the period from 2010 to 2015. Companies were selected using a consulting company (Informa DB), which provided the electronic mail of 1,500 companies. The final sample was 92 employers, corresponding to 6.1% of the initial sample. Regarding graduates, the data were collected through the academic services of IPB, with 7,152 students having completed their studies in the period under review (from 2010 to 2015). Of these, only 4,384 graduates, corresponding to 61.3%, were taken into account.

Given the nature of the data gathered, the statistical approaches used were absolute and relative frequency tables and measures of central tendency.

Results Presentation

The Employers' Perspective

Companies' Characterization

Considering the different activity sectors of the companies engaged in this study, the vast majority are private companies (88.8%), with public companies, Social Solidarity Institutions and business associations representing residual values in our sample. Regarding the year of constitution, the majority (64.1%) declares the beginning of activity in the nineties and in the first decade of the twenty-first century. Regarding the geographical scope, it is observed that 49.5% of the 92 companies work in the regional/local market, with 25.3% of the total sample being in the region of *Terras de Trás-os-Montes* and 10.1% in the region *Tâmega e Sousa*. On the other hand, 41.8% of the economic activity sectors operate at the national market level and, of these, 31.9% are located in the *Terras de Trás-os-Montes* and *Tâmega e Sousa* regions, and only 8.8% operate in the Multinational market. Concerning the social characterization of the workers of the 92 companies, 40.8% (549) are men and 59.21% (797) are women. In 86 companies, workers have still very low levels of education, namely up to High School (22.6%). Nevertheless, overall, the percentage of graduated workers is already very significant (26.8%).

Looking at the position in the company by sex, we observed an association between the two variables, with 45.6% of the men occupying the position of general director/manager/superior technician. Conversely, women are more frequently head of service or non-superior technicians compared to men (5.4% for women and 2.8% for men).

Organizational Practice of Trainees/Graduates

Of the 92 companies, 111 of the hired employees were IPB graduates and 56 were graduated in other HEIs (Higher Education Institution). Of the 111 IPB graduates that were hired, we observed that the larger fraction (54%) has a contract from 1 to 3 months, one-third of which being contracts for professional internships, which represents 18% of the overall 111 cases.

Overall, the surveyed companies have a total of 213 graduates, 29% of which are linked to a fixed-term contract (certain/uncertain), 26.3% are professional internships and 24.9% have permanent contract (effective). In terms of the origin of the trainees/graduates, from a total of 202 graduates

distributed by 72 companies, 134 cases (66%) were from IPB, 22 cases (10.9%) were from the University of *Trás-os-Montes e Alto Douro*, and 20 cases (9.9%) were from another educational institution, namely Lusfada University, University of Lisbon, and University of Beira Interior. It can, thus, be concluded that the IPB is quite representative regarding the placement of its graduates in the business fabric of the region under study.

Considering the most wanted academic training areas in recent years, these have been "Business and Law Sciences" (37.5%), "Technologies/Engineering" (22.9%) and "Agrarian Sciences and Natural Resources" (18.6%). As for the monthly remuneration attributed to a trainee/graduate, 49.4% of the graduates declared to be between €501 and €750 and 24.7% declared to be between €751 and €1000. On the other hand, 5.6% do not award remuneration and 1.1% declared a remuneration higher or equal to €1251.

The greater presence of curricular trainees in the unpaid form allows companies to benefit from new knowledge and skills carried by these qualified young people, contributing to their innovation and competitiveness while presenting themselves as a learning process of extreme importance for these young people in the process of formation. Regarding the interest of the company/organization in receiving students in the curricular stage, 60 companies (65.2%) answered that yes, and of these, 14 companies consider stages for 1 to 3 months, 29 for 4 to 6 months, and 17 for a period superior to 7 months. Moreover, when questioned if the hiring of a graduate is conditioned by the previous performance of an internship, 26.1% of the employers answered "many times" and 14.1% answered "always", revealing a tendency for positive association (mean=2.53; standard deviation=1.11). According to the employers, the recruitment of graduates after an internship in the organization/company is a simultaneous opportunity for the company and for the young person, since: it presents a lower cost to the organization (17.5%), enables learning in the organization (15.1%), gives the company the opportunity to hire qualified technical personnel (13.2%), gives a greater capacity to adapt to the organization/company (11.8%) and allows to test the professional skills of the graduate/master (11.3%). As for the competencies that the entrepreneurs seek in the trainees/graduates, the most frequent answer was "Autonomy" (11.9%), followed by "Innovation and creativity" (9.4%), "Adaptation" (9%), and "Group work" and "Problem solving", each selected in 8.6% of the cases. "Motivation" was considered as important factor by 7.9% of the entrepreneurs. It can be concluded that transverse competences are preferable, that is to say, in addition to possessing technical and scientific knowledge, it is important that graduates also have relational and social knowledge, among other competences that allow them to constantly adapt or readapt to work and to behavioral attitudes and ethical dispositions in coherence with the functioning structures and logics of the company/organization.

With regard to the most used means for recruitment of trainees/graduates, it was observed that 17.4% of the entrepreneurs continue to use the "Job Center" and 15.9% of the trainees/graduates self-presented for a "Professional Internship".

Regarding the importance that the respondents reveal for the various factors to be taken into account in the recruitment of a trainee/graduate of the IPB, it is concluded that most of the factors are "Extremely Important" and "Very Important" (responses above 50%), with "personal characteristics" having these classifications in 80.5% of the answers (mean=2.06; standard deviation=1.26), "self-Initiative" in 68.6% (mean=2.22; standard deviation=1.14) and "training area" in 67.3% (mean=2.25; standard deviation=1.26). Thus, in the sum of the various items analyzed for this group, the total average is 2.57 points (standard deviation=1.07), which reveals that in general all factors are important for the entrepreneur, as Table 1 shows.

Table 1: Importance factors in the recruitment of a trainee/graduate of the IPB

	Mean	Standard Deviation
Personal Characteristics (n=47)	2.06	1.26
Self-initiation (n=49)	2.22	1.14
Training area (n=51)	2.25	1.26
Pre-selection interview (n=49)	2.31	1.12
Professional experience (n=53)	2.36	0.98
Curricular structure of the course (n=51)	2.37	1.19
Professional skills (n=52)	2.37	1.19
Vocational training (n=51)	2.47	1.01
Place and previous stage experiences (n=49)	2.59	1.04
Extracurricular experiences (n=50)	2.64	1.01
Pre-specialization course area (n=49)	2.67	1.09
Final course grade (n=51)	2.78	1.05
Prior knowledge of the organization (n=47)	2.83	1.01
Letters of recommendation (n=45)	3.20	0.87
International Mobility Experience (ERASMUS/Outras) (n=48)	3.40	1.07
Total Mean	2.57	1.07

When questioned about the degree of satisfaction with the professional performance of the trainees/graduates, 12% of the answers pointed “Very satisfied” and 29.3% pointed “Satisfied” (mena=2.19; standard deviation=0.921), which reveals a degree of positive satisfaction with the professional performance of the recent graduates. Thus, the evaluation of the professional performance of the graduates suggests high degrees of satisfaction with respect to the requirements in the work context. It is therefore important to deepen this relationship between higher education, the world of work, and study areas of recruitment.

Characterization of All Graduates Recruited

Taking into account the answers of the 92 companies, of the set of graduates recruited and taking into account the distribution by sex, 41.7% are women and 36.1% are men. We observed that there are no disparities regarding the age group of the existing graduates in the companies/organizations, being comprised between the ages of 25 and 36 years. Of these, 38% are graduated women and 31.3 % are men. With regard to the origin of the graduates, the overwhelming majority (63.9%) is from the North of Portugal, with references to the Central and South regions being residual. This observation reflects a poor mobility of human resources, since the region of origin overlaps with the regions of study.

The conclusion of contracts with young graduates with a duration of more than 2 years is a dominant practice in companies, meaning that although entering in the company through a professional internship, as seen previously, this workforce qualification is able to gain a permanent link in the companies, despite there is still a significant number of graduates that have not yet reached one year working in the company, which corresponds to the time span of the professional internships.

In general terms, the majority of the graduates recruited by companies are licenced (70.2%), in comparison with masters (26.8%) or doctors (3%), with predominant origin in the North region of Portugal and an average monthly remuneration between 750€ and 1000€. We observed a general tendency from the entrepreneurs in incentivating complementary training (66.3%), with the larger fractions corresponding to the frequency of professional training (24.8%), the post-graduation

training (22.9%) and the Master degree (22%). The advantages associated with these trainings are related with the possibility to improve their performances and thus to gain greater autonomy in the exercise of their activities, while being also a source of companies' promotion.

Articulation between company and regional employment actors

We verified that the recruitment of graduated trainees from areas of study such as "Business and Law Sciences" and "Engineering and Technologies" have contributed to provide companies with greater competitive and innovative capacity. As the PIB and the University of *Trás-os-Montes e Alto Douro* have been the source of origin of graduates in the region under study, it is important to know if there is a link between higher education institutions and the business world.

It was found that 71.7% of the respondents answered that yes, that there is such a link, against 28.3% who say no. In the specificity of the measure, those who stated that there is a connection mentioned the main area "Support to employment" (59.8%) and then "Support to entrepreneurship" (23.9%).

This is a very interesting result, insofar as it can be said that the companies value the training provided in Higher Education, this fact shows that the companies in the region under study still have needs in terms of recruiting staff with higher education, so they are more likely to rely on policies to support employment and entrepreneurship than on knowledge transfer policies.

Taking into account the analysis of Table 2, it allows to evaluate the proximity between the IPB and the surrounding community. It can be verified that the total mean is 2.68 points (standard deviation of 1.05). A more detailed analysis of the results shows that the "Quality of the Facilities" and "Quality of curricula" presented more satisfactory values. On the other hand, it is verified that the "Preparation of students for the labor market" still presents unfavorable values. It can be stated in a gross way that IPB Bragança is not yet perfectly adequate in the labor market.

Table 2: Evaluation of the Polytechnic Institute of Bragança

	Mean	Standard Deviation
Quality of the facilities (n=38)	2.50	1.03
Quality of the curricular plans (n=39)	2.56	0.99
Scientific and technological preparation of students (n=39)	2.67	0.98
Relation to the environment (n=39)	2.69	1.10
Cooperation with neighboring companies (n=40)	2.75	1.13
Quality of teaching staff (n=38)	2.76	1.08
Preparation of students for the market (n=40)	2.85	1.05
Total	2.68	1.05

To respond to this assessment made by the entrepreneurs to the IPB, several items were presented in order to obtain information on the actions that should be carried out by the IPB to adapt/improve education to the labor market. It was possible to conclude that the actions that the IPB should promote in order to better adapt education to the labor market, would go through: to promote placements throughout the degree, even if of short duration; establish greater cooperation between enterprises in the region and promote after school training; and regularly assess the adequacy of graduations to the labor market. When asked about the most important scientific areas for the development of the North region, the attention was turned to Technologies/Engineering with 30.7% and Business and Law 18.7%. However, it is worth noting the importance they attribute to the areas of Tourism, Sports and Leisure with 20.5% as areas for the development of the region, presenting this as the only one that is not part of the range when recruiting, as discussed above.

The Graduates' Perspective

In total, 80 validated questionnaires were collected, which will serve as a sample for the study. The exploitation of information of a sociodemographic nature of the survey carried out for young graduates confirms that there is a young population with a mean age between 20 and 31 years (59.2%) in the sample as a whole. It should also be noted that 22.6% are between the ages of 32 and 37 years. At the intersection of ages and sex, it is observed that the tendency is more of young females with 58.7% against 41.2% of male respondents.

The importance of the region in the recruitment of graduates of the IPB was verified that 76.3% come from the Terras de Trás-os-Montes region, and then the distribution percentages by the other sub-regions are residual. There was a weak national mobility of applicants, mainly in their area of residence. This aspect, however, is not negative, since it will also be there that the newly graduates will seek internship or 1st job. It is therefore necessary to analyze the region of origin and its level of economic development to explain, in a way, the mismatch of transitions to the labor market. Also, it was visible that international students have settled in these regions, under study, and that were formed by the IPB. This suggests that the IPB has been a driving force to attract skilled labor to the region, leading to the combat of its desertification and the decline of the aging rate. In this way, it can be said that the bet that the IPB has made, namely for issues related to the strategy of internationalization, has been notorious and with satisfactory results.

At the time of the survey, the occupational situation of the respondents is characterized by an important insertion in the labor market, since 98.7% is or was employed during the study interval. It is concluded that this is a first indicator of professional integration that points to an employment relationship and regular working hours.

It is unquestionable that the educational level and the specialty of the graduates constitute one of the explanations of the processes of professional insertion, as well as the understanding of the structure of the motivations destined to the design of the future professional project. The areas with the highest concentration of professional contracting are Business and Law Sciences with 27.3% of respondents, Agricultural Sciences with 22.1% and Technologies / Engineering with 16.9%.

With respect to the last training obtained, it is confirmed that the majority of the graduates, with 65.5% continued their studies to obtain the master's degree and 36.3% have the degree. Young people who are not expecting to lose their current employment relationship are pursuing their studies in order to increase their skills in an increasingly competitive market where skilled labor exists in large numbers.

In the case of new graduates and knowing that Portuguese companies have always bet on low wages as a factor of competitiveness, the monthly remunerations earned by the respondents corroborate, to a great extent, the persistence of this wage policy, taking into account other studies (eg, Marques, 2007, Figueiredo et al., 2017, Pais, 2017). In fact, it was found that 38.8% had a gross monthly remuneration declared between € 501 and € 750 and that 31.3% had a remuneration of between € 751 and € 1000. It was also noted that for the same levels of qualification, women enjoy lower wage levels, as 32.5% have a monthly wage of between € 501 and € 750, against 6.2% for men and monthly pay between € 751 and € 1000 are men with 18.8% versus 12.5% of women. Through this analysis it was concluded that there are still significant differences between the monthly remunerations enjoyed between the sexes that may result from practices of sexual discrimination (Ferreira, 2010).

The Organizational Practice of Hiring Trainees/Graduates in the Last 5 Years

In recent years there has been an increase in atypical forms of work, most of them resulting from the initiative of employers, which is reflected in both the increase in term contracts (certain and uncertain) and the increasing number of internships professionals as an option of 1st job (Diogo, 2009; Cardoso et al., 2012).

In view of the results, the same theory is proven by the fact that 42.5% of respondents say that the most usual form when the trainee / graduate enters the organization is through a professional internship, 17.5% say that it is through a term contract and 12.5% through the curricular internship.

On the other hand, when interviewed about the hiring, if the same presupposes the previous performance of an internship, 54.4% said no, which may mean that the vast majority are on a fixed-term contract, if we take into account the previously analyzed, that is, that 33.3% is working in the organization / company less than 12 months.

The hiring of graduates through an internship in the organization/company is a simultaneous opportunity for the company and for the graduate, since it presents a lower cost to the organization (14.6%), makes it possible to test the professional skills of the company (14.6%), for tax benefits (13.3%).

The trend towards an extension of the activities carried out by young people who have to prove their professional competences is to emphasize the relevance of scientific technical skills, which academic training provides, above all, with transversal competences. From a list of 22 items, where the various modalities of transversal competencies are highlighted, the respondents mentioned in order of importance the following: group work with 12.2%; problem solving with 10.9%, continuous learning with 8.9%; and, autonomy with 8.6%.

Increasingly the employability of a graduate depends on his ability to avoid unemployment or the devaluation of his academic training, including lifelong training. The entrepreneurship dimension has been recognized as one of the possible ways of accessing the labor market, both for national policies and in the programmatic orientations of higher education.

The main conclusions about the means of recruitment used in organizations/companies from the perspective of graduates are the following in order of importance: spontaneous applications/sending Curriculum Vitae with 13.87%, knowledge of employees/employees with 13.55%, professional internship with 11.94%, personal knowledge (friends) with 10% and lastly the Employment Center with 9.68%.

In addition to these means, others assume significant percentages, as shown in Table 3, and generally all tend towards the positive side, that is, they are important when selecting the candidate. However, professional skills with an average of 2.37 points (standard deviation of 1.55) and professional experience with 2.49 points of average (standard deviation equal to 1.61), which express the percentage of the most positive response. In fact, in terms of dimensions that are not formalized in any academic curriculum, they are of decisive importance when selecting the candidate, considering that this is being analyzed from the perspective of the graduate.

Table 3: Importance factors in recruitment

	Mean	Standard Deviation
Professional skills (n=78)	2.37	1.55
Professional experience (n=79)	2.49	1.61
Pre-selection interview (n=77)	2.55	1.24
Extracurricular experiences (n=74)	2.61	1.12
Training area (n=76)	2.63	1.43
Professional training (n=78)	2.64	1.32
Place and previous stage experiences (n=78)	2.65	1.23
Curricular structure of the course (n=76)	2.70	1.03
Self-initiation (n=77)	2.71	1.22
Pre-specialization course area (n=62)	2.73	1.10
Personal characteristics (n=78)	2.79	1.39
Prior knowledge of the organization (n=76)	2.92	1.12
Letters of recommendation (n=69)	3.06	0.98
Final course grade (n=77)	3.12	1.04
International Mobility Experience (ERASMUS/Others) (n=53)	3.30	1.19
Total	2.75	1.24

When asked about the facility/incentive by the organization/company to perform complementary training, the vast majority (73.8%) assume that yes, the company facilitates the employees to carry out additional training. Complementary training is reported with more concentration of responses by graduates to vocational training with 24.8% of responses. Also the academic training, including the master's degree (19.31%) or the postgraduate (14.48%) and the specialization (18.62%) are assumed here with a relevant importance for professional performance.

That is, it can be concluded that "the risk of an investment depends on the variability of its return. The greater the differences in the salary benefits enjoyed by higher education graduates, the less one candidate is assured of the benefits they will actually achieve, and therefore the greater the risk of their decision to invest in pursuing their studies" (Figueiredo et al., 2017, p.42).

As for the actions that should be carried out by the IPB, to improve and adapt education to the labor market and thus increase employment opportunities, these are among a set of actions that includes: the incentive to entrepreneurship with an average of 1.67 points and standard deviation of 0.98; establish a connection and / or cooperation with companies in the region with an average of 1.96 points (standard deviation 1.23); and promote placements throughout the degree with a mean of 2.06 points and a standard deviation of 1.30. Therefore, the creation of incentives for the 1st job, which can be materialized through internships in national and international companies, is an extremely important action. In addition, the creation of one's own employment/enterprises can also contribute to increasing employment opportunities, as shown in Table 4.

Table 4: Actions of the IPB to improve/adapt its teaching to the labor market

	Mean	Standard Deviation
Encourage entrepreneurship (n=79)	1.67	0.98
Establish a connection and/or cooperation with companies in the region (n=80)	1.96	1.23
Promote placements throughout the degree (n= 79)	2.06	1.30
Making multidisciplinary degrees (n=77)	2.10	1.11
Create small organizations within the Institute managed by students (n=75)	2.13	1.11
Regularly assess the adequacy of graduations to the labor market (n=79)	2.19	1.50
Promote extracurricular training (n= 78)	2.31	0.96
Encouraging international mobility (n=73)	2.33	1.12
Placing students in management positions (n=79)	2.39	0.96
Improving the pedagogical preparation of teachers (n=77)	2.51	0.96
Promoting teamwork (n=77)	2.52	1.14
Modernizing the teaching method (n=78)	2.67	1.20
Total Mean	2.24	1.13

In general, it can be concluded that the graduate considers that it is up to the IPB not only the training/qualification of a professional fit for the labor market, but also the responsibility in the formulation and execution of active policies of employment promotion.

Conclusions and Recommendations

Taking into account the main objective of the present study, to evaluate the response of the Polytechnic Institute of Bragança, from the perspective of the employer, as a trainer of skilled labor in the needs of the companies of the NUT III region, and based on the comparative analysis carried out, it can be affirmed that in general the results obtained are favorable under the two analyzed perspectives, that is to say, entrepreneurs and graduates.

Regarding the main areas of recruitment, the importance of "Business and Law Sciences" and "Technologies / Engineering" was observed. It should be noted that in terms of the proportion between supply and demand, these are balanced, since there are no large discrepancies between the percentage of entrepreneurs offering and demand for graduates. Then there are the "Agrarian Sciences and Natural Resources" which also reveal a very significant importance.

In effect, the average remuneration can be considered to be between € 500 and € 1000. For entrepreneurs, the average remuneration awarded to a graduate is between € 751 and € 1000 with 56.5% compared to 31.3% of graduates, while for graduates the large percentage is 38.8% in the range of € 501 the € 750 versus 29.3% of entrepreneurs. To reinforce this salary practice based on low salaries, it should be noted that 5% of graduates show a monthly remuneration between € 251 and € 500.

The vast majority of entrepreneurs, 26.3%, have a more contractual relationship with the professional internship, which confirms the values on the side of graduates with 42.5%. This wage flexibility seems to be legitimized by the individualized evaluation of the knowledge and skills demonstrated in the work context of the graduates. In fact, both the lack of experience and the necessary probationary period in the context of work have contributed to the diffusion of both contractual practices and to associate them with the practice of low wages.

Regarding the organizational practice of contracting graduates, it was possible to verify that they are indicated in descending order of importance by the employers, the "Lower cost for the organization", "Possibility of learning in the company" and the "Opportunity to hire personnel qualified technician". In the opinion of the graduates and following the same order of importance, the contracting options are related to the fact that they present a "Lower cost to the organization", "Possibility to test the professional competences of the licenciado (a)/masters (a) "and lastly" For tax benefits (1st job)". We conclude that there are options that have been answered by both equals, which is a satisfactory factor.

Taking into account the competences analyzed it was found that, for the entrepreneur, they import more personal characteristics than the professional skills that the graduate can have. This statement can be justified by the difficulties that graduates feel in the development of transversal competences, such as teamwork, interpersonal relationships, adaptation to the job, among others. It was also possible to conclude by comparing the diagnoses that in the set of actions there is a significant association with the adequacy of education to the labor market, taking into account that for both entrepreneurs and graduates the actions "Establish a connection and/or cooperation with companies in the region "and" Promoting internships throughout the degree "are essential measures. Thus, the creation of incentives to adapt education to the labor market will essentially involve the creation of internships in national and international companies. Also, the promotion of job creation and the regular evaluation of graduations in the labor market may also contribute to the adequacy of education to the labor market.

As for the measures that should be carried out by the IPB to adapt education to the labor market, it can be concluded that both the "Establish a connection and/or cooperation with companies in the region" and "Promote placements throughout the degree" are essential.

Finally, regarding the measures that the Polytechnic Institute of Bragança can adopt to better adapt education to the labor market, based on the comparative analysis, the following proposals are proposed: establishing a connection and/or cooperation with companies in the region; promote internships during undergraduate courses; regularly assess the adequacy of graduations in the labor market; encourage entrepreneurship; evaluate and monitor students who have attended international programs such as ERASMUS and others; to adopt measures that could enable international students to establish themselves in the region, such as encouraging entrepreneurship or internships for such students.

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