EMPLOYERS' PERCEPTIONS OF THE EMPLOYABILITY AND SKILLS OF RECENT GRADUATES IN CATALONIA

Main findings of the AQU Catalunya Employers Survey 2014

AQU
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per a la Qualitat
del Sistema Universitari
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C. dels Vergós, 36-42
08017 Barcelona

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0. EXECUTIVE SUMMARY

The Employers survey

- The Employers survey forms part of **a broader project** to gain **insight into the issues being faced by enterprises (understood here to be companies and institutions as employers) in relation to the employability of the population of recent higher education graduates in Catalonia**. The project consists of three stages: a survey of graduate employers in Catalonia; discussion groups with graduate employers according to their branch of economic activity; and grants to Catalan universities for research into a better understanding and improvements to the employability of recent university graduates.
- On the basis of the results of the survey, this report provides information on the **perceptions and needs of employers regarding the skills and education level of recent graduates**.
- **The perceptions of employers complement those of higher education graduates, which are detailed in the surveys on graduate employment outcomes that have been carried out on an on-going basis in Catalonia since 2003**. Given its comparability with other European surveys such as Eurobarometer, the results of this survey in Catalonia can also be seen and contextualised in an **international context**.
- Given their particular characteristics, **the health or education sectors were not included** in this survey, and separate surveys were conducted for these sectors.

Population and sample

- **A listing of enterprises was produced with the help of the universities' careers and information services**, in addition to the medium and large enterprises operating in Catalonia from the ACICSA 2014 yearbook.
- The AQU Catalunya Employers survey consists of a total of **1,325 interviews carried out with respondent enterprises** operating in Catalonia. Interviews were conducted on-line and by telephone.
- **66% of the enterprises in the sample were listed with the universities' careers and information services**. They can therefore be viewed as being good respondents of graduate skills.

- **The sample is not representative** of organisations with a production activity in Catalonia. **Medium and large-sized enterprises are over-represented** in relation to the overall group of enterprises in Catalonia, as they are the ones that recruit a higher volume of university graduates.

Characteristics of the employers in the survey

- **In 47% of the enterprises contacted, more than half of all employees had a university degree**. Many of these organisations can be seen as having the capacity to deliver value-added products and services.
- **The sales of medium and large-sized enterprises are aimed more at the Spanish and international markets** whereas **the sales of micro and small enterprises are concentrated in the Catalan market and at local area level**. It is important to bear in mind these differences in the assessment of graduate skills, particularly in foreign languages and having either studied or worked abroad.
- Among the enterprises contacted, those with **a higher number of employees also tend to be more innovative** (introducing more new products and business services and the market, changes in process technologies, etc.). Available evidence at the international level shows that organisations that are more innovative tend to recruit more graduates.
- **Among the enterprises in the sample, the higher the number of employees in the organisation, the more flexible practices in human resource management (HRM).** Flexible practices in HRM refers to the sharing of information, working methods and procedures, payment and remuneration systems, and decision-making.
- **35% of the informants were the directors of the enterprise, 28% were heads of the HR department and 37% held other positions in the organisation.** Informants in micro-enterprises tended to be the director or manager, whereas in medium and large-sized enterprises it was either the director or head of the HR department who answered the survey. In small enterprises the informants were more varied.

Recent graduate recruitment

- **Around 60% of the organisations in the sample had recruited recent graduates in the last five years**. This is an encouraging figure bearing in mind the context of economic crisis in recent years
- **The main degree subjects of graduate recruits were Economics, Business Management and Administration, and Business Sciences (34%); Production Engineering (31%); and Information and Communications Technologies (28%).** Degrees in these subjects typically produce a high volume of graduates, although they are more broad based and non-specific in terms of employment in any given occupation.
- **Enterprises that recruit a higher volume of graduates** tend to be large entities, 60% of their employees have a university degree and they are innovative in terms of their products, services and processes.
- **91% of the employers in the sample considered a Bachelor's degree to be an important factor in recruitment**, whereas most considered a Master's (34%) or

doctorate degree (8%) to be less important. The importance of a degree varied according to the size of the enterprise.

- **The recruitment factors most highly rated by employers** were, on a scale from 1 to 10, having studied abroad (6.6), work experience and internships (6,5), having worked abroad (6.4) and the university's reputation (5.5).
- **42% of employers recruiting graduates experienced challenges and/or difficulties with recruitment**, the main reasons being a shortage of applicants with the right skills (60%); a shortage of graduates in a given field (30%); and a shortage of applicants willing to accept the salary offered (20%).

Skills of recent graduates

- On a scale from 1 to 10, the **skills that employers in the sample considered to be most important** were demonstrating responsibility at work (8.9), the ability to acquire new knowledge (8.4) and team working (8.3). The least important were negotiation skills (6.4) and leadership (6.6).
- **Overall satisfaction with the skills of recruited graduates was 7 out of 10 (medium to high)**. Although the rating varied according to the skill, all skills were given at least a pass mark of 5.
- On a scale from 1 to 10, **the skills that employers in the sample were most satisfied with** were computer skills (7.9), demonstrating responsibility at work (7.6), team working (7.5), theoretical skills (7.2) and the ability to acquire new knowledge (7.0). They were least satisfied with leadership (5.8) and negotiation skills (5.7).
- There was **no marked variation in the levels of importance of and satisfaction with the skills of recent graduates according to branch of activity nor size of the organisation, except for foreign languages**.
- **The branches of economic activity where foreign language skills were rated the lowest** were construction and building (6.1), mass communication media (6.8) and business services (7.4).
- **Foreign language skills were considered to be more important in large enterprises** (8.4), compared to medium enterprises (7.9) and small and micro-enterprises (7.1).
- **The largest differences between the employers' views concerning the importance of and satisfaction with graduates' skills were in problem solving (-1.7), practical skills (-1.6) and the ability to generate new ideas (-1.5)**. These skills are therefore considered to be where there is more scope for improvement.

Workplace training

- **74% of the organisations had provided graduate recruits with some kind of training**. This percentage varied according to the characteristics of the enterprise.
- **Large enterprises** (87%) are those that provide the most training, compared to micro-enterprises (67%), which offer the least.
- **Organisations that are more innovative** (85%) provide more training than those that are less innovative (50%).

- Organisations that are more flexible in terms of HRM (84%) provide more training than those that have less flexible HRM practices (55%).
- The **main reasons for workplace training** are the upgrading of sector-specific skills and/or training (79%); to assist employees in adapting to the characteristics of the enterprise and the corporate culture (65%); and improvements to soft skills (48%). Other reasons include training due to lack of basic knowledge (34%) and to upgrade foreign language skills.

Enterprise-university cooperation

- More than 60% of the organisations cooperated with universities on a frequent basis by **offering work placements to undergraduate students**.
- 86% of the employers in the sample had **never been involved in the design and/or discussion of curricula and study programmes**.
- According to employers in the survey, the best action for improving the employability of graduates is **the incorporation of work experience as part of the curriculum**.

International comparison

- At European level, organisations that recruit the most graduates are large enterprises and the ones that are the most innovative. They are also the ones that most highly value a Master's degree.
- One of the skills considered to be most important among both European and Catalan employers is team working.
- Coinciding with the assessment at European level, the two skills that employers in Catalonia were most satisfied with are computing skills and team working.
- In both Catalonia and Europe, the most frequent way in which universities and employers collaborated is by offering work placements, experience and internships to undergraduate students. This is also considered to be the best action for improving graduate employability.

Enhancement proposals

DIAGNOSIS	ENHANCEMENT PROPOSAL
1. Organisations that recruit the most graduates are: - Large enterprises - More than 60% of their employees have a university degree - Innovative	▪ Promote and facilitate recruitment by this type of organisation ▪ Promote the entrepreneurship of high value-added enterprises ▪ Promote contacts between graduates and organisations of this type (business forums, work experience and placement, etc.)

2. Difficulty of the enterprise to recruit graduates in a specific field or because of a shortage of applicants with the right skills	▪ Establish links between the universities' careers and employment services and enterprises that have difficulties with recruiting graduates with the right qualifications ▪ Disseminate the Qualifications Framework for graduates
3. Differences in the importance of proficiency in foreign languages according to the size of the organisation and branch of activity	▪ Assess improvements to language learning in degree programmes where, for the labour market, foreign language proficiency is considered most important
4. Scope for improvement in problem solving and practical skills	▪ Introduce compulsory work experience/placement in the curriculum
5. Workplace training to make up for and fill gaps in what are considered to be basic skills that should be provided by study at university	▪ Include employers in the design and/or shaping of curricula and study programmes
6. Imperfect information and a lack of coordination between the various stakeholders	▪ Promote a system for coordinating information and data for joint actions with a view to improving the employability of recent graduates

1. INTRODUCTION

The Employers survey forms part of a broader project to obtain insight into the issues being faced by employers and their perceptions regarding the employability of recent graduates in Catalonia.

The purpose of the survey is to provide information on employers' perspectives of the skills and education level of recent university graduates in Catalonia.

The views of employers complement those of university graduates, which are detailed in the surveys on graduate employment outcomes carried out on an on-going basis in Catalonia since 2003. This overview of employers' perspectives and graduate employability in the university system in Catalonia is the first such study to provide information on this subject in Spain.

1.1. The Employers project

The Employers (*Ocupadors*) project, which receives funding from Obra Social "la Caixa", was launched to complete the series of surveys on the employment outcomes of graduates in Catalonia. The initial stage of the project consists of a survey to gather employers' perceptions on the skills and education level of the recent graduate population in Catalonia, the results of which are presented in this report. The second stage of the Employers project consists of discussion groups according to branches of economic activity that will follow up and discuss in greater depth the general findings of the survey. The final stage of the project is a grant scheme and a call for applications for more in-depth research into the match between the level of university education of graduates and the requirements of the labour market (education-job skills match).

Figure 1. Stages of the Employers project

STAGE 1: Employers survey (2014-2015)	• Survey design and administration • Data mining and analysis of the findings
STAGE 2: Discussion groups (2015)	• Discussion groups according to branch of activity • In-depth analysis of the survey findings
STAGE 3: Research grants (2015-2016)	• Call for applications for research grants • In-depth research of the education-jobs skills match

1.2. Objectives of the Employers survey (stage 1)

The purpose of the survey is to establish the ways in which employers in Catalonia assess the match between the skills acquired by graduates at university and the skills they need in the labour market and in their jobs.

Some of the issues that the Employers survey seeks to address are to:

- Detect the factors that influence recent graduate recruitment.
- Better understand the difficulties with recruitment facing employers in Catalonia.
- Understand the importance of the different skills required by the graduate population.
- Establish the levels of satisfaction with these skills and identify gaps in the education level of graduates.
- Provide information on the degree and type of cooperation between universities and enterprises (enterprise-university cooperation).
- Compare data on the employability of the graduate population in Catalonia with other studies at international level.

Analysis of the results of a survey of this kind provides universities with information to bring degree courses in line with the needs of the labour market. The main purpose of this survey has therefore been to provide information and evidence that can serve as a basis for the discussion and analysis of policies that can be developed to improve and enhance the system of higher education and the universities in Catalonia by way of:

- Degree programmes that are more relevant to the requirements of graduates in the labour market.
- Improved approaches to the practice and experience-based dimensions of university curricula.
- Improvements to institutional actions and services to facilitate graduates' transition from the university to the world of work.

1.3. The importance of the views and perceptions of employers

One of the functions of university is to provide people with knowledge and skills that are relevant to the labour market (Santiago et al., 2008b). Although the main type of knowledge provided by universities is of a theoretical nature, they are also responsible for introducing practical experience in courses and skills that is relevant to the labour market (European Commission/EACEA/Eurydice, 2014). In addition, the knowledge society increasingly requires employees and workers to have higher-level skills and knowledge.

This is no easy task, given that the requirements and priorities of the labour market are constantly changing and difficult to predict in the short term. According to the most extensive employers survey carried out in the UK, more than 70% of employers anticipate that staff will need to acquire new skills over the "coming year" (Winterbotham, Vivian, Shury, Davies, & Kik, 2014). The survey also shows that professional occupations (mostly filled by graduates) are those most affected by the need for "upskilling".

The difficulty to predict future skills needs and requirements (CEDEFOP, 2008; Royal Society, 2010; PWC, 2015) means that efforts tend to focus on providing evidence as a way of raising awareness on the subject, as to specific predictions being made and for each particular field (European Commission, 2012; University of South Wales, 2014).

Universities and organisations therefore need to work together to achieve a good match between the skills that are acquired by students at university and those used in the workplace. Cooperation between universities and organisations is key to ensuring that the level of education and training provided by both is complementary and satisfactory (QAA, 2014). The responsibilities need to be separated out:

- The universities need to educate and provide people with knowledge and skills that are both general as well as soft skills, which can be potentially applied in most occupations and branches of economic activity. They also need to provide the theoretical and practical skills specific to a graduate's field of study (European Commission/EACEA/Eurydice, 2014).
- Enterprises and organisations need to complement a graduate's level of education by facilitating the practical application of theoretical knowledge acquired and the acquisition of skills specific to the world of work, along with training in areas specific to the sector of activity and/or the characteristics of the enterprise (QAA, 2010).

In terms of Catalonia, there is extensive and good quality information on the skills and level of education of graduates and the actions carried out by the universities to upgrade and enhance students' skills (AQU Catalunya, 2014). Specific information on the views and needs of employers in Catalonia as regards recent graduates has not available up until now, however, so part of the picture concerning the assessment of recent graduate skills has been missing. This survey covers the opinions of a sample group of employers in Catalonia as to how they value the skills of recent graduates in terms of the education-job skills match. Although the sample is not representative of all enterprises employing graduates in Catalonia, it does cover a wide range of branches of economic activity and the different sizes (number of employees) of enterprises. It does therefore

fulfil the function of providing useful information that can be used for taking action to improve graduate employability.

1.4. Other studies and surveys taken as reference

Two surveys of employers conducted in Europe were used as reference in the design and actual carrying out of this survey: the European Commission's Eurobarometer (The Gallup Organisation, 2010) titled "Employers' perception of graduate employability" and the UK Commission's Employer Skills Survey 2013: UK Results (Winterbotham et al., 2014).

What these two studies have in common with this baseline survey in Catalonia is that all three surveys were conducted to obtain information on employers' views of skills, specifically of university students, employees and recent graduates respectively. The three surveys also coincide in that they focus on skills that are generic and transferable across different fields, as survey responses referred to graduate employees from different fields of study. Individuals answering the survey for enterprises were either in charge of selection and recruitment or individuals in contact with recruits at work.

Figure 2 shows the main characteristics of these two other surveys in comparison with the survey by AQU Catalunya as regards design and methodology, although not all the dimensions and issues are exactly the same, i.e. totally comparable. Bearing in mind however that the purpose of the survey is similar, the differences in certain results can be partially explained by the methodology (population, geographical area, sample and year). The main results obtained in all three studies are commented throughout this report.

Figure 2. Comparison of the three employers surveys

AQU Catalunya's Employers survey	Eurobarometer "Employers' perception of graduate employability"	UK Commission's Employer Skills Survey 2013
• **Population:** enterprises and institutions with employees and economic activity in Catalonia (including self-employed), potential employers of recent graduates • **Area covered:** Catalonia • ***N* = 1,325** • **Sample:** quotas according to branch of economic activity (AQU Catalunya classification). Oublic administration, education or health sectors not included. • **Method:** On-line and telephone survey • **Year of survey**: November-December 2014	• **Population:** companies in the private and public sectors with at least 50 employees, potential employers of university graduates • **Area covered:** 31 European countries (the 27 members of the EU plus Croatia, Iceland, Norway and Turkey) • ***N* Spain = 401** • ***N* total = 7,036** • **Sample:** a simple random sample, no quotas set. Agriculture and education sectors not included • **Method:** telephone survey • **Year of survey:** August-September 2010	• **Population:** establishments located in the UK with at least two staff (including employees and working proprietors) • **Area covered: UK** (England, Northern Ireland, Scotland and Wales) • ***N* = 91,279** • **Sample: Q**uotas set according to region and sector of activity • **Method:** telephone survey • **Year of survey:** March-July 2013

The Eurobarometer survey is more similar to the AQU Catalunya survey in that, aside from the assessment of recent graduate skills, it also includes information on recruitment and workplace training, together with the areas and ways in which there is university-enterprise cooperation. The main difference with this survey however is that Eurobarometer considers university graduates in general, and not just recent graduates. In addition, the Eurobarometer survey only includes companies with at least 50 employees, whereas the AQU Catalunya survey also includes micro-enterprises (between 1 and 9 employees) and small enterprises (between 10 and 49 employees). The agriculture and educational sectors are excluded from the Eurobarometer survey, whereas the AQU Catalunya survey includes agriculture. A separate survey of primary and secondary education institutions is also being carried out.

With regard to the UK survey, the main difference with the Employers survey conducted by AQU Catalunya is that the survey does not focus exclusively on university graduates and covers enterprises with two or more staff (including employees and working proprietors) (IFF Research, 2014). It has nevertheless been taken as reference due to the importance given to innovation and human resource management in relation to employees' skills.

Surveys of employers carried out so far in Spain have either only focused on graduates of a particular university (Freire Seoane, 2007; García García, 2007; Observatori Ocupacional Universitat Jaume I, 2005; Observatorio del Mercado de Trabajo, 2008; UPC, 2004; the Vicerectorate's Office for Employment at the University of the Basque Country/UPV, 2004) or they have only covered a small number of enterprises (ANECA, 2004). The AQU Catalunya survey is the first of its kind in Spain to provide the university system with information on graduate skills from the point of view of both graduates and employers.

The abundance of information and diversity made available by these main stakeholders (graduates and employers) provides an accurate picture of graduate employability. It also provides both the universities and society an evidence-based approach to better advise recent graduates and make improvements to curricula in higher education, in a similar way to other countries where leading developments in this field are taking place (ACNielsen Research Services, 2000; M Mourshed, Farrell, & Barton, 2012).

Other surveys dealing with similar issues associated with the education-jobs skills match (the level of education of graduates and the requirements of the labour market) were also taken into account in the design and drawing up of this report. They were not used as main references however due either to the differences in methodology, because they do not focus exclusively on higher education graduates and/or because they do not include specific data on Spain and/or Catalonia (CEDEFOP, 2013; European Commission/EACEA/Eurydice, 2014; Emerging, 2013; Mourshed et al., 2013).

2. POPULATION AND SAMPLE

The AQU Catalunya Employers survey is based on interview responses from 1,325 enterprises with a production activity in Catalonia. The interviews were conducted on-line and by telephone.

66% of the enterprises in the sample were listed with the universities' careers and information services and as such can be considered to be good informants of graduate skills.

The purpose of the sample was more to provide information for assessing and enhancing recent graduate employability, and not the representativeness of the enterprises employing graduates in Catalonia. In this regard, medium and large-sized enterprises tend to be over-represented compared to the overall group of enterprises in Catalonia as they recruit a higher volume of university graduates.

Unlike the AQU Catalunya surveys on graduate employment outcomes, one of the main difficulties in conducting the Employers survey was to obtain a listing of enterprises, given that there was no register of organisations operating in Catalonia that employ higher education graduates.

Producing the listing of enterprises that employ recent graduates would have been impossible without the cooperation of the universities' careers and information services. Given that the purpose of the survey was to obtain employers' perceptions of recent graduate employability, contact was made with enterprises that the universities were familiar with through their careers and information services. Contact was also made with medium and large-size enterprises, due to their higher capacity to recruit recent graduates (see annex 4 for more information).

Despite these efforts, neither the population nor the sample obtained can be considered to be representative of all organisations employing recent graduates in Catalonia. The survey results are therefore not inferable to all enterprises employing graduates in Catalonia, nor to all enterprises operating in Catalonia.

The register of enterprises that was finally obtained consists of 16,757 entries of enterprises contactable by either e.mail (11,570 enterprises) or telephone (13,779). 8,592 enterprises could be contacted by both means.

Administration of the questionnaires consisted of two stages:

- **Stage 1**: the questionnaire was administered on-line, following initial contact in the form of a letter signed by the Catalan Ministers for the Economy and Knowledge, on the one hand, and Business and Labour, on the other, in which the project was explained. 534 useful responses were obtained from this stage.
- **Stage 2**: the questionnaire was administered over the telephone. Enterprises listed as having a telephone were contacted, together with those that had already been sent an e.mail, but had failed to respond to the survey. From this stage 791 useful responses were obtained.

The result was a sample of 1,325 enterprises that responded to the questionnaire, with an overall response rate of 7.91% and a sample error of 0.0264. These can be considered to be within the parameters of quality.

Table 1. Population and sample characteristics

	Population	Sample	Response rate	Sample error
On-line	11,570	534	4.62%	0.0423
Telephone	13,779	791	5.74%	0.0345
Total	16,757	1,325	7.91%	0.0264

NB: The population total does not correspond with the total of the on-line and telephone population, as contact was made with 8,592 entries by both e.mail and telephone.

Tables 2 and 3 show the comparison between the enterprises in both the population and sample. Table 2 gives the distribution according to the number of employees and table 3 the distribution according to branch of economic activity (AQU Catalunya classification; see annex 5 for more information).

As regards the size of enterprise, micro-enterprises and SMEs (small and medium-size enterprises) were more highly represented among enterprises in the sample as to the total population. The number of employees was unknown in 19% of the organisations in the population.

Table 2. Distribution of enterprises according to size

	Population		Sample	
	Number	**Percentage**	**Number**	**Percentage**
Micro-enterprise	5,487	40.80%	501	37.81%
Small enterprise	5,786	36.50%	486	36.68%
Medium enterprise	2,519	15.71%	258	19.47%
Large enterprise	1,138	7.00%	80	6.04%
Total	16,757	100.00%	1,325	100.00%

NB: Micro-enterprise (1-9 employees), small enterprise (10-50 employees), medium enterprise (51-250 employees), large enterprise (over 250 employees). Information was not available on the size of all the organisations in the population (1,106).

With reference to the branch of activity, table 3 shows the distribution of the enterprises in the sample and population according to the AQU Catalunya classification, as far as university graduates is concerned. By comparing the weighting of each branch of activity in the sample and population it can be seen that the highest difference between the population and sample was in consumer services. In all other branches the difference between the weighting of the sector in the population and sample was smaller.

Table 3. Distribution of enterprises according to branch of activity

	Population		Sample	
	Number	**Percentage**	**Number**	**Percentage**
Chemical and pharmaceutical industries	521	3.11%	93	7.02%
Food industries	627	3.74%	92	6.94%
All other industries	3,686	22.00%	264	19.92%
Construction and building	903	5.39%	77	5.81%
Consumer services	5,055	30.17%	220	16.60%
Communication technologies	645	3.85%	94	7.09%

Mass communication media	354	2.11%	77	5.81%
Financial institutions and real estate entities	544	3.25%	75	5.66%
Business services	2,821	16.83%	251	18.94%
N/A	1,601	9.55%	82	6.19%
Total	16,757	100.00%	1,325	100.00%

It is important to point out that the survey did not include the following sectors: public administration, education, culture, research, health and social welfare. Separate surveys have been carried out for the health and education sectors due to the particular characteristics of these sectors.

3. CHARACTERISTICS OF EMPLOYERS IN THE SAMPLE

In 47% of all enterprises in the sample, more than half of their employees were graduates.

The sales of medium and large-sized enterprises were aimed more at the Spanish and international markets whereas the sales of micro and small enterprises were concentrated in the local area and Catalan markets.

Organisations with a higher number of employees also tend to be more innovative and flexible HRM.

35% of the informants were the directors of the enterprise, 28% are the human resources department head, and the rest held other positions within their organisation.

3.1. Characteristics of the organisations in the sample

The results of the survey offer an initial picture of various distinctive features of the enterprises in the sample. The main characteristic that stands out is the size of enterprise according to the number of employees.

The characteristics of the enterprises participating in the survey in relation to their size and four other factors are given below:

1. Percentage of graduate employees
2. Sales market
3. Level of innovation
4. Level of flexibility in human resource management (HRM)

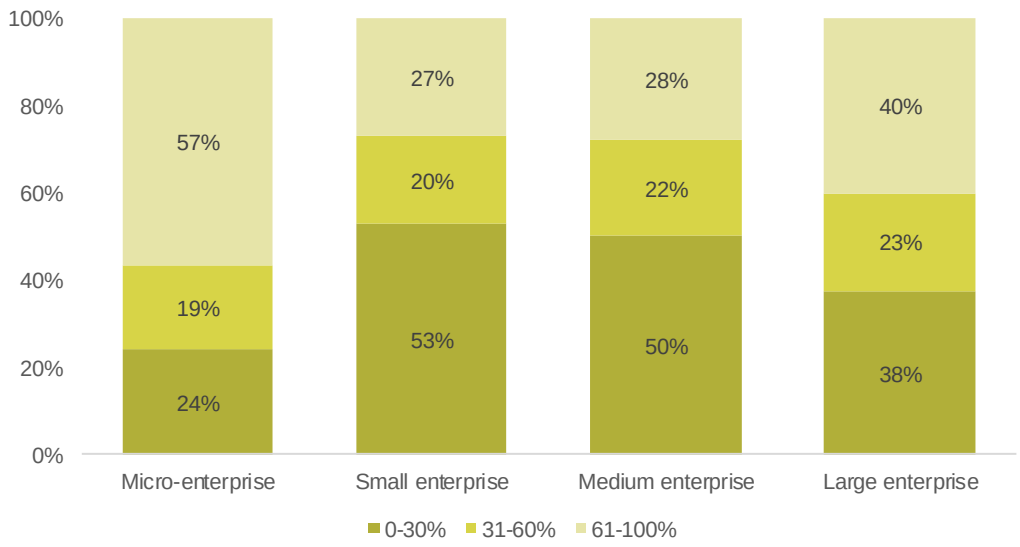
As regards the proportion of graduate employees in the organisation, in 47% of the enterprises in the survey over half of their employees were graduates. Nevertheless, the distribution of organisations according to the percentage of graduate employees was polarised at the extremes: in 31% of enterprises less than 20% of their staff were graduate employees, whereas in 28% over 80% of their staff were graduate employees.

This polarisation in the distribution according to the degree studies of an organisation's employees varied according to the size of enterprise. As can be seen from graph 1, around 50% of small and medium-size enterprises had less than 30% graduate employees, whereas micro-enterprises and large enterprises stand out as being more representative of organisations where more than 60% of their staff were graduate employees.

These data point to two types of organisations that can potentially recruit recent graduates:

- Enterprises with less than 10 employees (micro-enterprises), that specialise in a specific field with a high value-added activity. Examples include specialist consultants, law firms, architecture firms and enterprises specialising in communication.
- Enterprises with over 250 employees (large enterprises), which can give recent graduates their first job opportunity on entering the labour market, as well as offering them the possibilities of in-company promotion. Examples include the chemical, pharmaceutical and food industries.

Graph 1. Distribution of enterprises according to size and the proportion of graduate employees

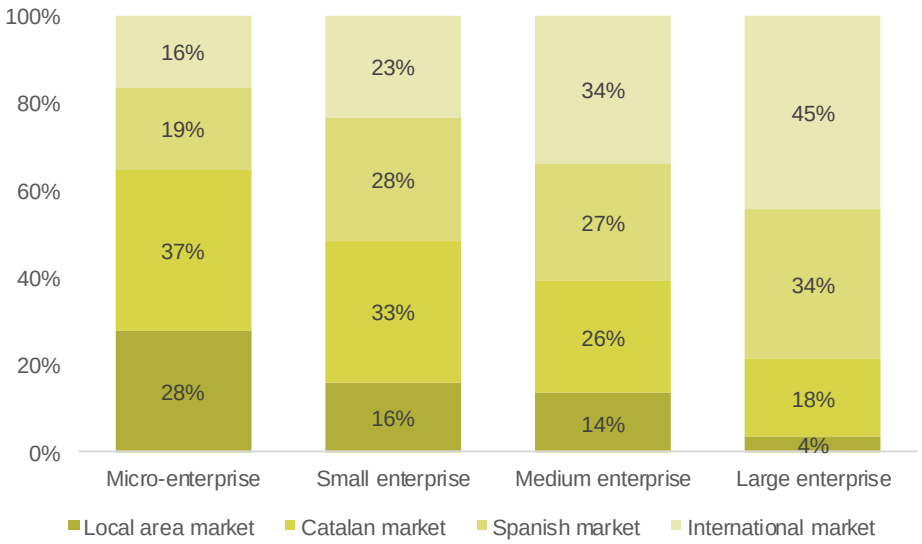


As regards the distribution of enterprises according to their sales market, differences are clearly evident according to the size of organisation. As can be seen from graph 2, the majority of the sales of micro-enterprises were in the local area and regional market in Catalonia, whereas those of large enterprises were aimed more at the international and Spanish markets.

Although these results are not surprising, the differences in the type of market that an organisation is aimed at are a factor to be taken into account when comparing employers' views concerning

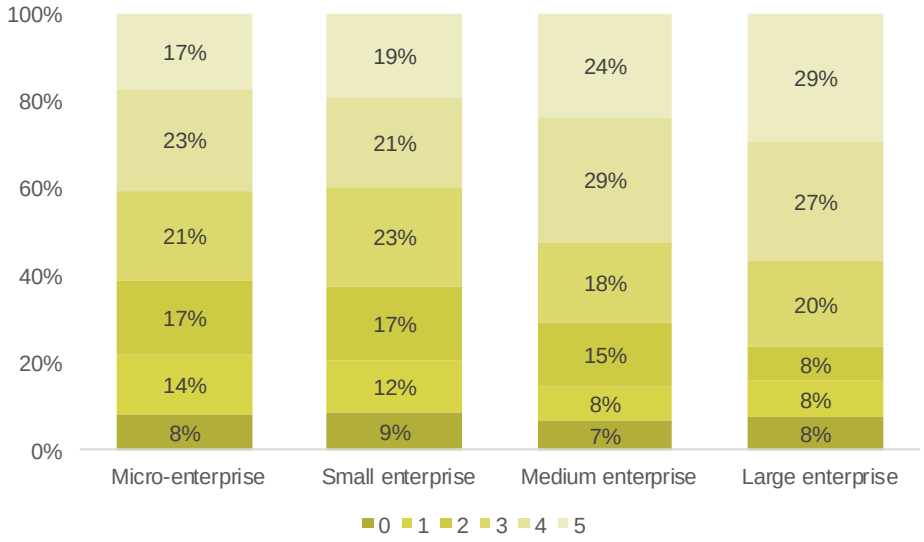
the importance of graduate skills and their actual satisfaction with their employees' skills and abilities, as market orientation gives rise to different requirements, such as foreign language skills.

Graph 2. Enterprises in the sample according to the product market and size



As regards the innovation level of enterprises in the sample, the trend shown in graph 3 is that the larger the size of the organisation, a higher rating on the innovation index. Types of innovation considered in the index included the introduction of products and services that are totally new to the enterprise and market, important changes in process technology, changes in management methods and new ways of associating with other organisations. One should bear this in mind throughout the report as it presupposes that more innovative organisations may also have a greater need for employees with higher level qualifications and skills, for example university graduates (Winterbotham et al., 2014).

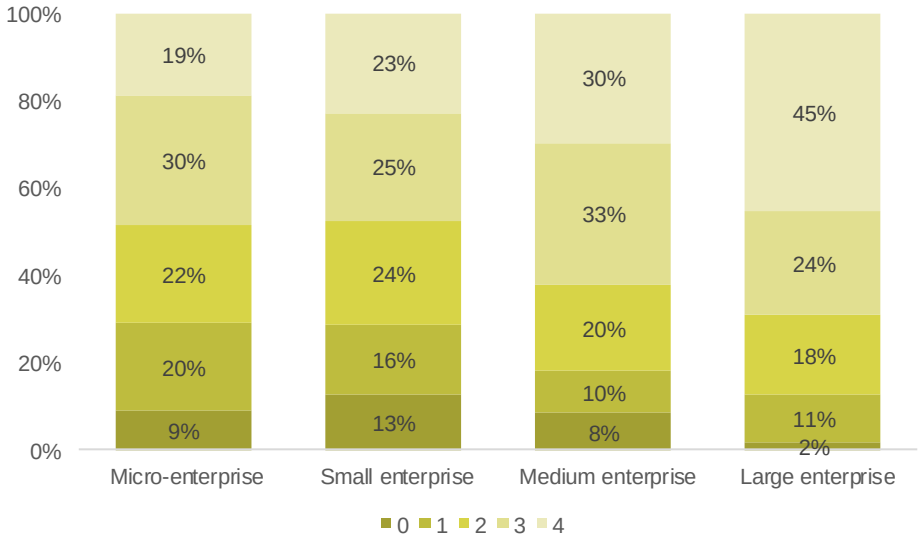
Graph 3. Enterprises in the sample according to innovation level and size



NB: The index shows the number of innovative production activities carried out during the last three years. 1 indicates no innovative production and 5 indicates five innovative production activities (see question 23 in the survey in annex 2).

Similar to what we have just seen with the innovation index, graph 4 shows a trend where the higher the number of employees in the organisation, the higher the rating on the HRM index. It can therefore be surmised that it is the larger organisations in the sample that apply greater flexibility (they relax the rules more) in human resource management. A higher score on the index indicates a higher number of flexible practices in HRM with regard to the sharing of information, work methods, systems of payment and remuneration and decision-making, in line with the findings of other international reports (Winterbotham et al., 2014).

Graph 4. Enterprises in the sample according to human resource management and size



NB: The index indicates the number of HRM practices considered to be flexible and which promote graduate recruitment. 1 indicates the absence of any of these management practices in the organisation and 4 indicates practice of the four types of HRM (see question 24 in the survey in annex 2).

3.2. Sample informants

Aside from the characteristics of the organisations covered by the survey, one of the main pieces of information necessary prior to presenting and analysing the results has to do with the person providing the information (the informant) in each organisation. Depending on who this is, their level of familiarity with and understanding of the requirements of the enterprise may vary, along with their degree of commitment to the organisation.

Account also needs to be taken of the level of proximity between the informant and recent graduate recruits who are being valued. If the person providing the information has little contact at work with graduate employees, it is unlikely they will be able to provide an assessment of the actual situation that is as accurate as one provided by an informant who works in close contact with recent graduates. This may vary according to the number of employees in the enterprise.

According to the survey results, 28% of the informants were either the director or head of the HR department and 35% were either the company director or manager. The remaining informants (37%) held other positions (management assistants, HR officers, administrative staff, supervisors, etc.).

This distribution varied according to the number of employees in the organisation. As can be seen from table 4, the majority of informants in micro-enterprises were the company director (59%). This percentage decreases as the size of organisation increases: in small enterprises the majority of informants held a different position to that of director or head of HR (43%), whereas in medium and large-sized enterprises the majority of informants were the head of HR (57% and 61%, respectively).

Table 4. Informant's position in the company according to the size of enterprise

	Micro-enterprise	Small enterprise	Medium enterprise	Large enterprise
General manager, director, manager	58.67%	29.57%	9.09%	1.75%
Director/head of HR	8.42%	27.32%	57.27%	61.40%
Other	32.91%	43.11%	33.64%	36.84%
Total	100.00%	100.00%	100.00%	100.00%

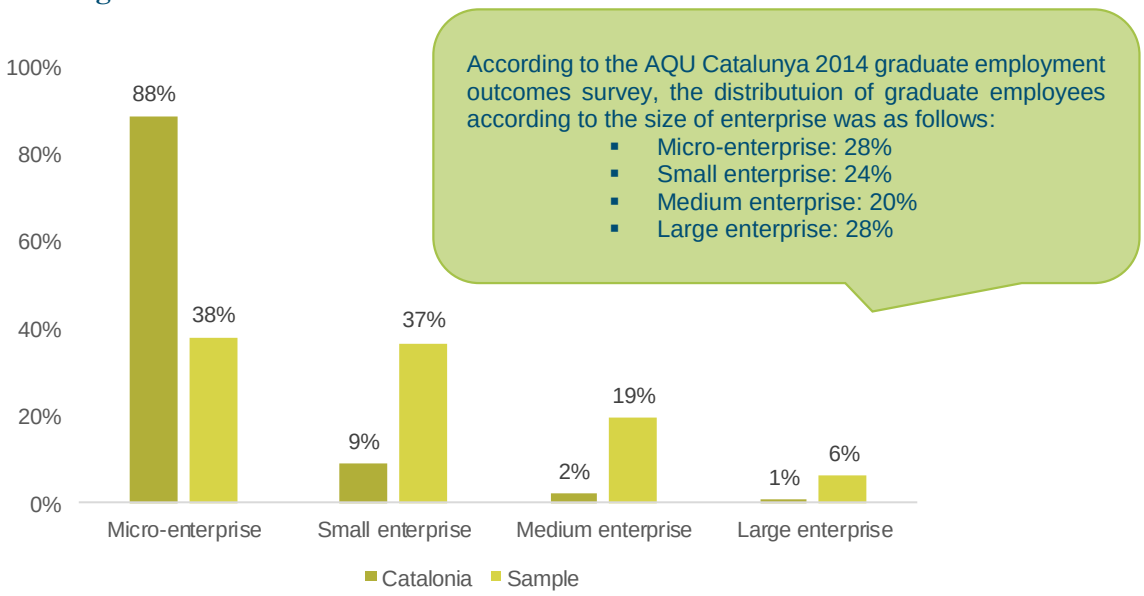
3.3. Comparison between employers as a whole in Catalonia and those in the sample

The characteristics of the enterprises in the sample are different from those of enterprises operating as a whole in Catalonia. This bias in the sample of organisations that participated in the Employers survey was justified because of the nature of the organisations that have more contact with recent graduates and their recruitment capacity.

Using the available information, a comparison can be made between enterprises in general in Catalonia with those in the sample concerning two aspects, namely the organisation's size and branch of activity.

Graph 5 shows the comparison between the size of enterprises with employees for Catalonia as a whole and those in the survey sample. For Catalonia as a whole, 88% of enterprises were micro-enterprises (less than 10 employees) compared to 36% in the sample. Small enterprises (between 10 and 50 employees), medium enterprises (between 51 and 250 employees) and large enterprises (over 250 employees) came out as being over-represented in relation to enterprises as a whole in Catalonia.

Graph 5. Comparison between enterprises in general in Catalonia and those in the sample according to size

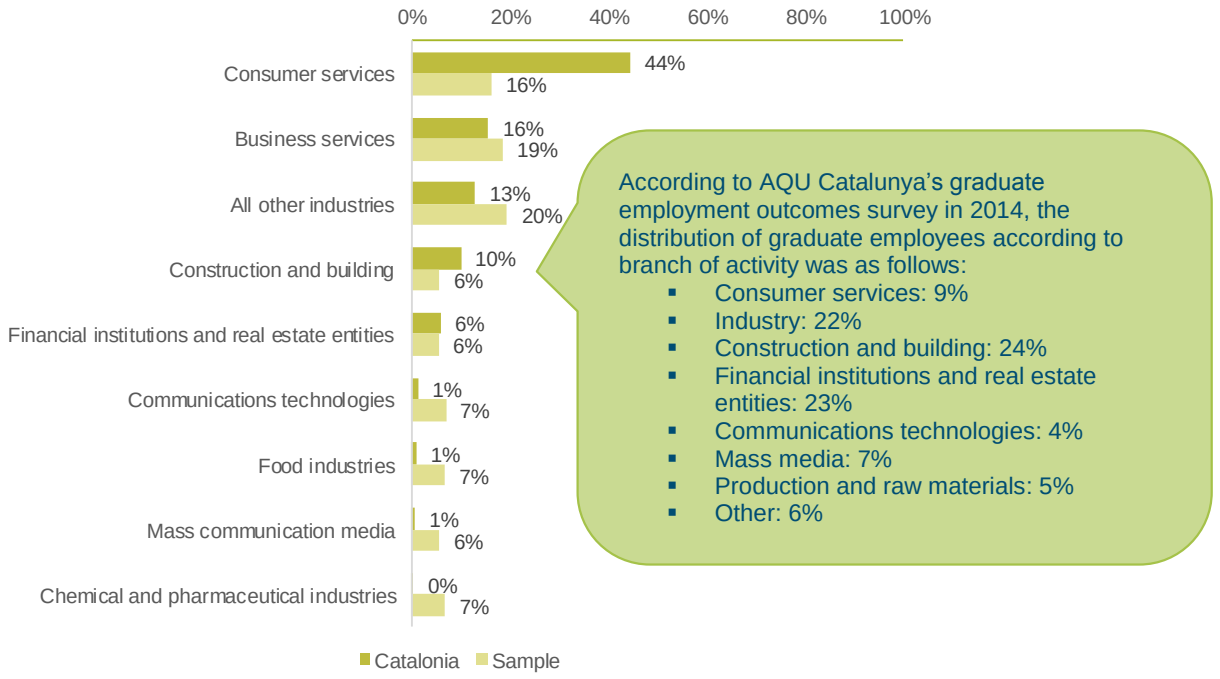


NB: Enterprises in Catalonia include organisations just with employees. Enterprises in the following sectors are not included: agriculture, livestock and fisheries; public administration, defence and compulsory social security, household activities and extra-territorial organisations and bodies (CCAE-2009 01-03, 84 and 97-99, respectively).

Source: the authors and IDESCAT, based on the Spanish Institute of Statistics/INE's Central Business Register (DIRCE).

Graph 6 shows that 44% of the organisations in Catalonia with employees were accounted for by consumer services, whereas in the survey sample it was only 16%. Construction and building was also under-represented in the sample, in relation to organisations with employees as a whole in Catalonia. Other branches of activity were proportionally better represented in the sample than for Catalonia as a whole. As mentioned above, the purpose of the sample of employers in the survey was its relevance to the enhancement of graduate employability, not the representativeness of enterprises.

Graph 6. Comparison between enterprises in general in Catalonia and in the sample according to branch of activity



NB: Enterprises in Catalonia include organisations just with employees. Enterprises in the following sectors are not included: agriculture, livestock and fisheries; public administration, defence and compulsory social security, household activities and extra-territorial organisations and bodies (CCAE-2009 01-03, 84 and 97-99, respectively).

Source: the authors and IDESCAT, based on the Spanish Institute of Statistics/INE's Central Business Register (DIRCE).

A comparison of the size of enterprises in the sample with those in general in Catalonia as a whole according to branch of activity shows that there are two groups: those with a higher proportion of micro-enterprises (construction and building, communication technologies, mass communication media, financial institutions and real estate entities and business services) and those with a higher level of dispersion according to the size of enterprise (the rest).

Table 5. Comparison between enterprises in general in Catalonia and those in the sample according to size and branch of activity

	IDESCAT					Sample				
	Micro-enterprise	Small enterprise	Medium enterprise	Large enterprise	Total	Micro-enterprise	Small enterprise	Medium enterprise	Large enterprise	Total
Chemical and pharmaceutical industries	43.91%	30.79%	18.88 %	6.42%	100%	8.60%	39.78%	41.94%	9.68%	100%
Food industries	62.06%	27.32%	7.58%	3.04%	100%	15.22%	48.91%	26.09%	9.78%	100%
Other industries	79.99%	15.47%	3.62%	0.93%	100%	21.21%	48.11%	21.97%	8.71%	100%
Construction and building	91.59%	7.45%	0.79%	0.17%	100%	53.25%	32.47%	14.29%	0.00%	100%
Consumer services	91.87%	6.53%	1.24%	0.36%	100%	28.18%	40.91%	25.00%	5.91%	100%
Communication technologies	79.52%	14.16%	3.99%	2.33%	100%	43.62%	37.23%	13.83%	5.32%	100%
Mass communication media	77.87%	15.90%	4.16%	2.08%	100%	53.25%	28.57%	16.88%	1.30%	100%
Financial institutions and real estate entities	94.82%	3.42%	1.14%	0.62%	100%	36.00%	30.67%	18.67%	14.67 %	100%
Business services	88.83%	8.38%	1.87%	0.92%	100%	62.95%	25.10%	9.56%	2.39%	100%
Total	**88.49%**	**8.85%**	**2.01%**	**0.66%**	**100%**	**36.04%**	**37.57%**	**20.19%**	**6.19%**	**100%**

NB: Enterprises in Catalonia include organisations just with employees. Enterprises in the following sectors are not included: agriculture, livestock and fisheries; public administration, defence and compulsory social security, household activities and extra-territorial organisations and bodies (CCAE-2009 01-03, 84 and 97-99, respectively).

Source: the authors and IDESCAT, using the Spanish Institute of Statistics/INE's Central Business Register (DIRCE).

4. RECENT GRADUATE RECRUITMENT

59% of the enterprises in the sample had recruited recent graduates in the last five years.

The main degree subjects of graduate recruits were Economics, Business Management and Administration, and Business Sciences (34%); Production Engineering (31%); and Information and Communications Technologies (28%).

Organisations that recruited a higher volume of graduates were large enterprises, 60% of their employees had a university degree and they were innovative in terms of their products, services and processes.

91% of employers in the sample considered a Bachelor's degree (or its equivalent) to be an important factor in recruitment, whereas a Master's (34%) or doctorate degree (8%) was considered to be less important by most organisations.

Having studied abroad, work placement and having either studied and/or worked abroad were the recruitment factors most highly rated by employers in the sample.

42% of the organisations in the sample had experienced difficulties with recruitment, the main reasons being a shortage of applicants with the right skills (60%); a shortage of graduates in a given field (30%); and a shortage of applicants willing to accept the salary offered (20%).

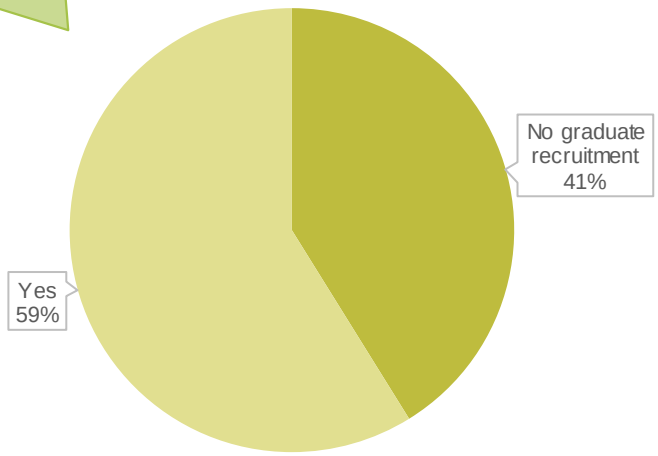
4.1. Recent graduate recruitment

59% of the enterprises in the survey had recruited recent graduates in the last five years. Given that the survey covered employers that had some kind of contact with universities in Catalonia and medium and large-sized enterprises, a higher percentage was to be expected. One should however bear in mind the economic context in recent years, which led to a drop in the volume of recruitment and made it more difficult for university graduates to find employment.

Graph 7. Recent graduate recruitment in the last five years

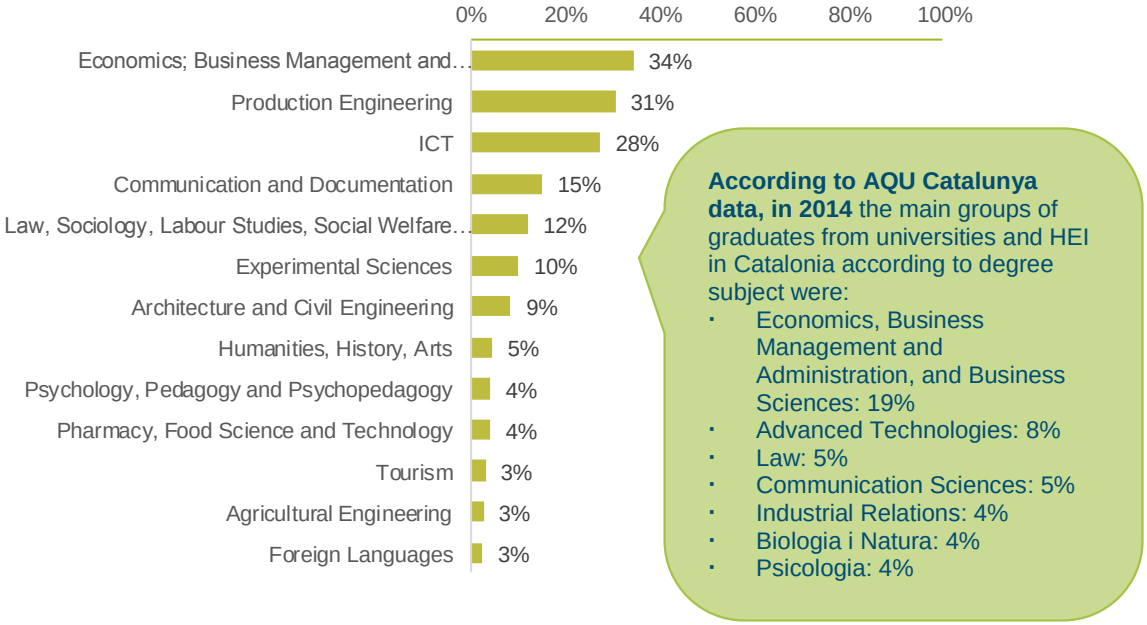
According to Eurobarometer 2010:

- 68% of enterprises (59% in Spain) recruited recent graduates and planned to continue doing so.
- 25% of enterprises (37% in Spain) recruited recent graduates, but did not plan to continue to do so.



As can be seen from graph 8, the main subjects that graduate recruits had degrees in were Economics, Business Management and Administration, and Business Sciences (34%); Production Engineering (31%); and Information and Communications Technologies (28%). One reason why these subjects had the highest number of graduate recruits is that they are among those that produce the highest number of graduates (AQU Catalunya, 2014). The percentage of degree holders in these subjects in employment and across a variety of sectors was also high, so it is not surprising that graduates in Economics, Business Management and Administration, and Business Sciences were recruited more by organisations because accountancy and financial management are common to all types of enterprise. There was a low level of graduate recruitment in Architecture and Civil Engineering, probably because of the context of economic crisis that had had a profound effect on both the public and private construction and building sector in recent years.

Graph 8. Subjects in which recent graduate recruits had degrees



NB: This survey does not include the education or health care sectors.

4.2. Characteristics of the recruiting organisations in the sample

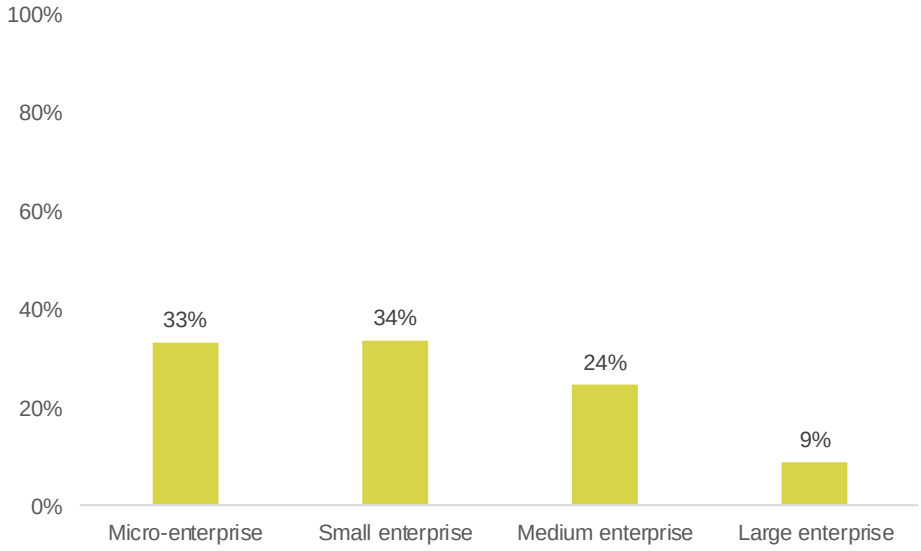
Not all enterprises recruit recent graduates and those that do recruit according to different proportions. The need to recruit recent graduates and the volume of graduate recruits depends on different factors. From the information provided by the those who responded to the survey and who have recruited recent graduates during the last five years, there are certain characteristics which help to identify organisations that are more likely to recruit recent graduates and the degree to which they are capable of doing do.

The factors taken into consideration were:

1. Size of the organisation
2. Percentage of employees in the enterprise with a degree
3. Innovation level
4. Level of flexibility in human resource management (HRM)

As far as the number of employees (size of the organisation) is concerned, graph 9 shows that, out of the recruiting organisations in the sample, more than half were micro-enterprises (33%) and small enterprises (34%), whereas medium-size enterprises accounted for 24% of the total number of recruiting enterprises and large enterprises only 9%.

Graph 9. Enterprises recruiting recent graduates according to size (last five years)



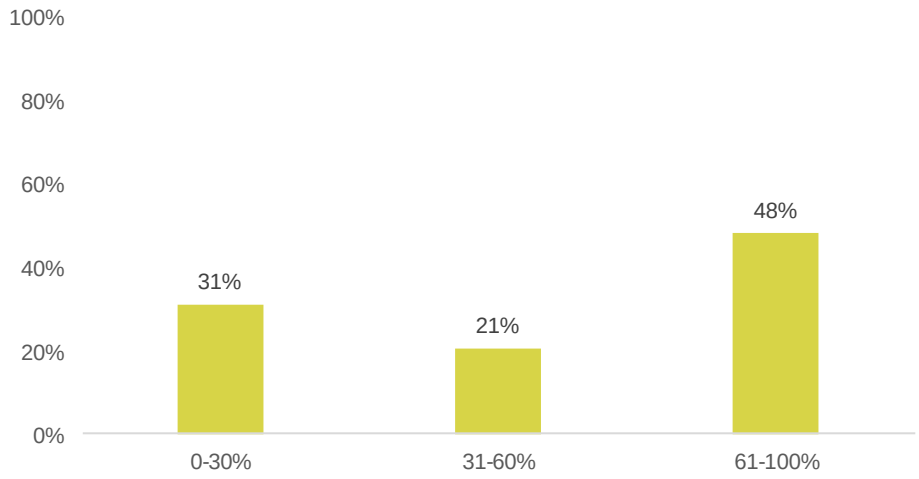
A look at the number of recent graduate recruits according to the size of enterprise, however, gives a different picture. As can be seen from table 6, the larger the enterprise, the more graduates were recruited on average. Although they were more numerous, micro-enterprises and small enterprises recruited very few graduates. Large enterprises recruited the largest volume of graduates.

Table 6. The mean number of graduates recruited according to the size of enterprise (last five years)

Size of enterprise	Mean number of recruits	Minimum	Maximum	Standard deviation
Micro-enterprise	2.49	1	11	1.96
Small enterprise	4.99	1	50	6.60
Medium enterprise	17.81	1	300	40.21
Large enterprise	67.67	2	750	134.44
Overall total	12.03	1	750	45.20

In terms of the percentage of graduate employees in the enterprise, graph 10 shows that, for around half of all enterprises recruiting recent graduates, more than 60% of their employees had a degree. An important factor in understanding recent graduate recruitment would therefore appear to be the nature of organisation in terms of its composition of human capital.

Graph 10. Enterprises recruiting recent graduates according to the percentage of graduates in the enterprise (last five years)



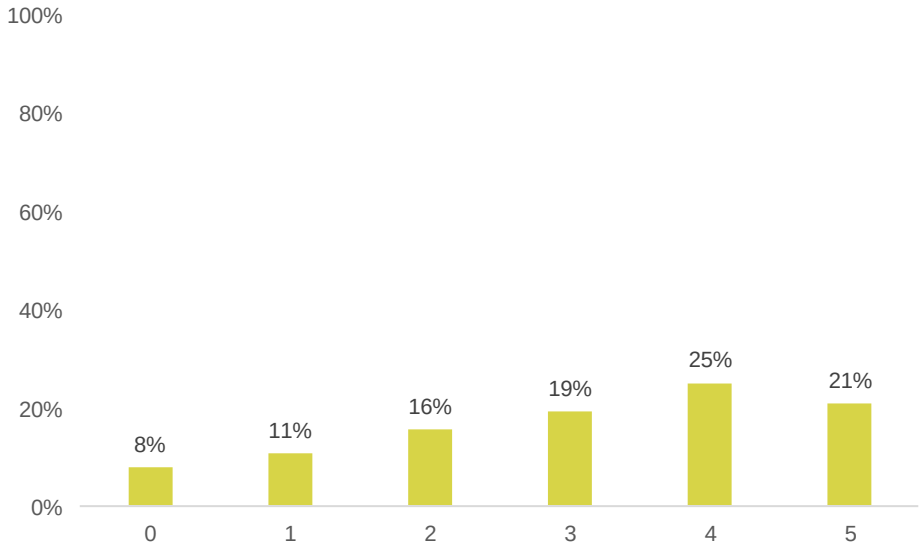
Likewise, if the emphasis is placed on the volume of graduates, it can be seen from table 7 that the higher the percentage of employees with a degree in the enterprise, the higher the level of graduate recruitment. Enterprises with a higher percentage of graduate employees recruited on average 18.31 recent graduates. There was a high variation (62.74) however due to the fact that, within the group of enterprises with a high percentage of highly qualified employees, there were both micro-enterprises (which have a limited recruitment capacity) and large enterprises (which have a high volume of recruitment).

Table 7. The mean number of graduates recruited according to the percentage of graduate employees in the enterprise (last five years)

Percentage of graduates in the enterprise	Mean number of recruits	Minimum	Maximum	Standard deviation
0-30%	5.48	1	250	17.97
31-60%	7.96	1	100	13.86
61-100%	18.31	1	750	62.74
Overall total	12.19	1	750	45.55

As regards the third important factor in graduate recruitment, graph 11 suggests a slight relationship between the innovation level and recent graduate recruitment. The forms of innovation include the introduction of products and services that are totally new to the enterprise and market, important changes in process technology, changes in management methods and new ways of associating with other enterprises. In the UK, it is enterprises that pursue innovation that offer more jobs to graduates (Winterbotham et al., 2014).

Graph 11. Enterprises recruiting recent graduates according to the innovation index (last five years)



NB: The index shows the number of production innovation activities undertaken during the last three years. 1 indicates no production innovation and 5 indicates five production innovation activities (see question 23 in the survey in annex 2).

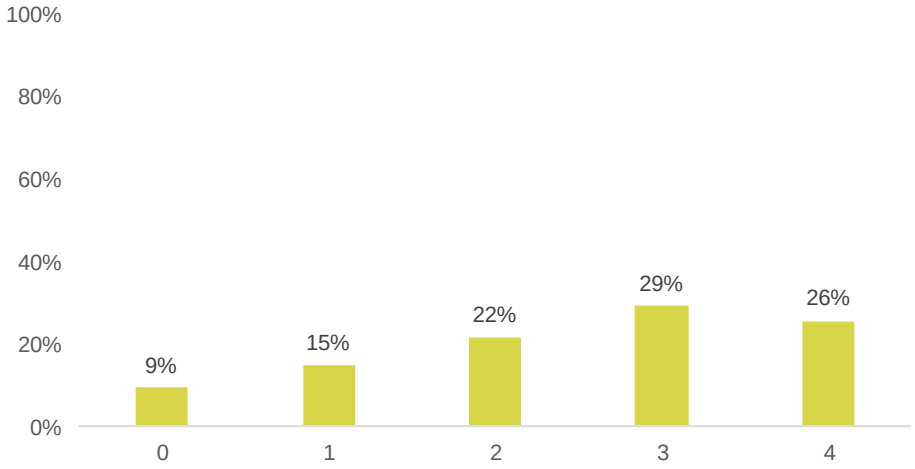
The picture becomes clearer by focusing on the number of graduate recruits, as the trend indicates that enterprises with the highest score on the innovation index on average recruited more graduates. It would therefore appear that the organisation's innovation level is an important characteristic for recent graduate recruitment.

Table 8. The mean number of graduates recruited according to the innovation index (last five years)

Innovation index	Mean number of recruits	Minimum	Maximum	Standard deviation
0	6.24	1	50	9.42
1	6.69	1	150	19.92
2	8.91	1	200	29.94
3	11.54	1	500	47.59
4	12.00	1	350	39.90
5	18.02	1	750	73.29
Overall total	11.66	1	750	46.45

The last characteristic to take into account with regard to recent graduate recruitment by enterprises is the human resource management (HRM) index. A higher score on the index indicates a higher number of flexible practices in HRM as regards the sharing of information, work methods, systems of payment and remuneration and decision-making. In the UK, enterprises that put into practice these HRM practices tend to offer more jobs and fill them more easily (Winterbotham et al., 2014). Graph 12 shows that there was a slight trend for organisations with a higher score on the HRM index to contract more recent graduates.

Graph 12. Enterprises recruiting recent graduates according to the human resource management index (last five years)



NB: The index indicates the number of HRM practices viewed as being flexible and that promote graduate recruitment. 1 indicates the absence of any of these management practices in the organisation and 4 indicates practice of the four types of HRM (see question 24 in the survey in annex 2).

If we look at the volume of graduate recruits according to the HRM index, there is no clear trend. While enterprises with the highest number of recruits were, on average, those having a higher score on the index, those with just one HRM activity covered by the index were in second position.

Table 9. The mean number of graduates recruited according to the HRM index (last five years)

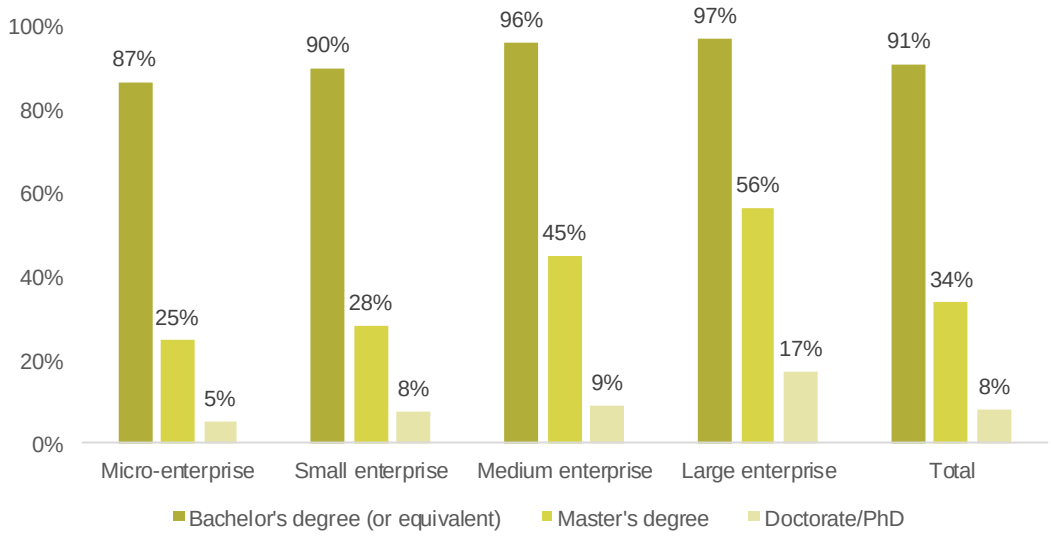
HRM index	Mean number of recruits	Minimum	Maximum	Standard deviation
0	7.45	1	150	21.16
1	14.19	1	750	79.29
2	8.54	1	300	28.45
3	11.01	1	250	29.77
4	17.97	1	500	57.89
Overall total	12.37	1	750	47.59

4.3. Relevant factors in recent graduate recruitment

The previous section covers the characteristics of the enterprises in the sample that most recruited recent graduates. This section explores the factors that organisations in the sample considered to be important in graduate recruitment.

There is a clear consensus (91%) among employers in the sample that a Bachelor's degree (or its equivalent) is an important factor in recruitment in general and in certain jobs. This is not the case however with other higher degrees, such as a Master's or PhD. Only 34% of employers in the sample considered a Master's degree to be important in recruitment, and in the case of a PhD or doctoral degree the percentage was only 8%.

Graph 13. Importance of the type of degree in recruitment according to the size of enterprise



NB: The percentages include responses that stated a degree is important in general, as well as those that stated a degree is important in certain kinds of job.

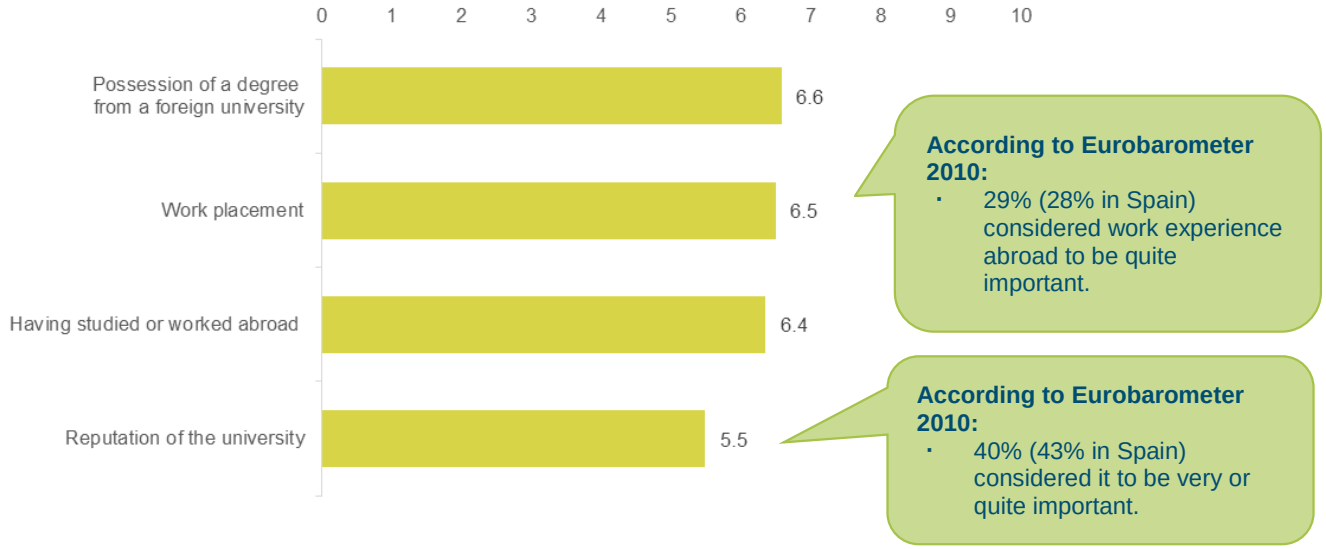
Variations can be seen according to the size of organisation. In the case of a Bachelor's degree (or its equivalent), micro-enterprises give least importance to this type of degree (87%), compared to large enterprises which consider them to be of most importance (97%). In the case of a Master's degree, 25% of micro-enterprises and 28% of small enterprises in the sample considered this to be important in recruitment. A Master's degree was also more highly valued by medium (45%) and large-size enterprises (56%). This trend of the larger the enterprise, the more importance given to a Master's degree coincides with the results of the Eurobarometer survey (The Gallup Organisation, 2010). In the case of a doctoral degree/PhD, the high value given by large enterprises (17%) stands out compared to the total value for all organisations (8%).

These results contrast with those of Eurobarometer (The Gallup Organisation, 2010), according to which 55% of the enterprises (37% in the case of Spain) considered a Bachelor's degree would best match the skills requirements of their organisations, whereas 35% (47% in the case of Spain) considered a Master's degree to be the best match and 3% (9% in the case of Spain) a doctoral degree/PhD. This difference is probably due to the fact that the Eurobarometer survey only covered enterprises with more than 50 employees, which, as mentioned above, valued a Master's degree more highly.

There were no marked differences according to the percentage of graduate employees in the organisation. Mention is made of the fact that organisations with more than 60% of their employees with a degree rated a Master's degree more highly and, in the case of a doctoral degree/PhD, a higher proportion reported it was a relevant factor in recruitment for certain types of job.

Other characteristics that may have an influence in graduate recruitment and which were taken into account in this study are: being in possession of a degree from a foreign university, work placements, having studied and/or worked abroad (study, languages, etc.) and the university's reputation. Graph 14 shows the mean importance of these factors in recruitment. Being in possession of a degree from a foreign university, work experience/placement and having studied and/or worked abroad were all rated similarly (6.4-6.5 out of 10), while the university's reputation was less important, although it was still considered to be relevant (5.5 out of 10).

Graph 14. Mean importance in recruitment



These mean values (of the importance of these factors in recruitment) vary according to the size of organisation. Having studied and/or worked abroad was rated lower by micro-enterprises and small enterprises (5.9 and 6.1, respectively), compared to medium enterprises (6.7) and large enterprises (7.8). Medium and large enterprises on average also attached more importance to a degree from a foreign university (6.9 and 7.6, respectively). Large enterprises also placed more emphasis on work experience (7.3). Similar to the results of the Eurobarometer survey, in which large enterprises carry more weight, professional experience and/or having worked abroad were two of the more important factors in recruitment (The Gallup Organisation, 2010).

As can be seen from graph 2, medium and large-sized enterprises stand out for the higher proportion of their sales aimed at the international market. This difference may be partially due to the importance given by these organisations to experience gained by graduates abroad. Higher-level skills and abilities in languages, a knowledge of other cultures and traditions and/or the facility and availability to travel are factors that are likely to be more highly valued by enterprises operating in international markets. According to the Eurobarometer survey, enterprises with international contacts place a higher value on the fact that graduates have either studied or

worked abroad (The Gallup Organisation, 2010). There were no marked differences regarding the percentage of graduate employees in the enterprise.

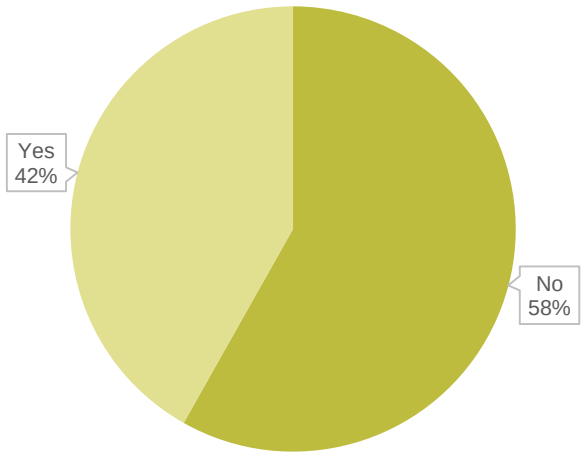
4.4. Difficulties with the recruitment of recent graduates

In many countries there is a high level of unemployment at the same time that employers report difficulties in finding people with the appropriate skills (Conseil d'orientation pour l'emploi, 2013; Mourshed et al., 2012; OECD, 2012). This paradox reflects the difficulty in satisfactorily matching supply (i.e. employees) and demand (company requirements) in the labour market. This international trend is also evident in Catalonia, where a high unemployment rate has not served to overcome the difficulties encountered by employers in graduate recruitment.

Although university graduates have a higher employment rate compared to people who only have a secondary or primary education (Santiago et al., 2008a; AQU Catalunya, 2014; OECD, 2014), they nevertheless receive criticism from employers who consider that there are often insufficient candidates that are either suitable for the requirements of their organisations or have the right skills. Part of this problem may be due to a matter of imperfect information in the labour market between the knowledge and skills of graduates and those required by organisations; this could be partially solved by disseminating and facilitating the information gathered in the Qualifications Framework on degree programmes.

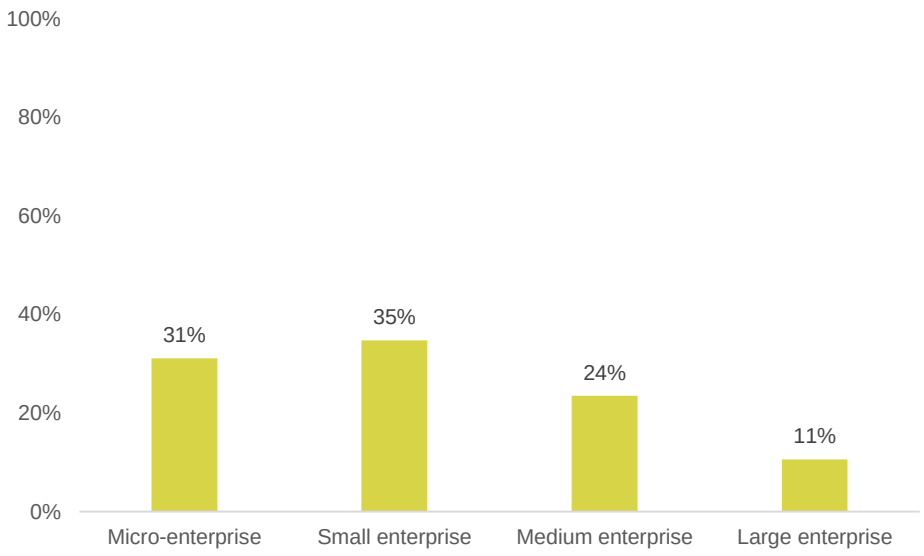
As mentioned in the previous section, 59% of employers in the sample had recruited recent graduates in the last five years. 42% of these recruiting organisations stated they had experienced difficulties with recruitment.

Graph 15. Enterprises experiencing difficulties in the recruitment of recent graduates (last five years)



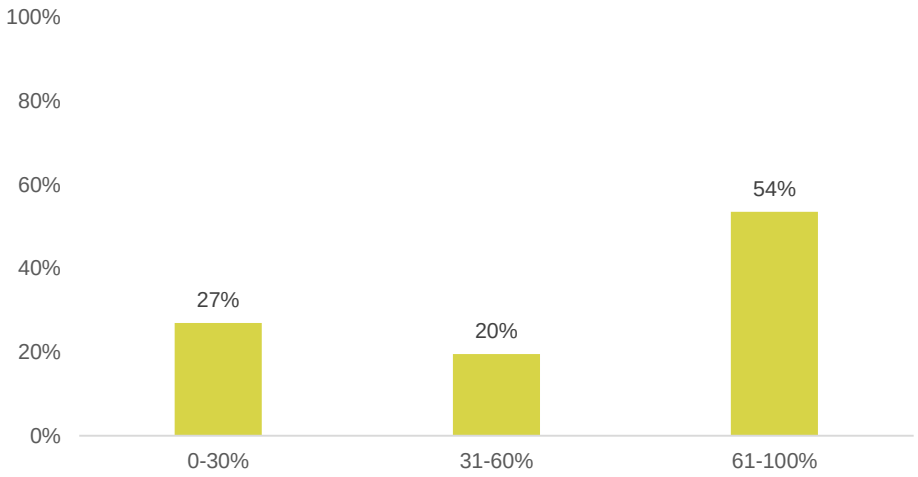
Organisations of differing size in the sample stated they had experienced difficulties with recruitment. As can be seen from graph 16, the distribution of these enterprises according to their size was practically identical to the distribution of those with graduate employees (graph 9). Among the recruiting organisations in the sample there were therefore no differences in the difficulty of recruitment according to size.

Graph 16. Enterprises experiencing difficulties in the recruitment of recent graduates, according to size



The situation was similar with the distribution of enterprises with difficulties with recruitment in the sample according to the percentage of graduate employees. In relation to recruiting enterprises as a whole (graph 10), organisations with a higher percentage of highly qualified employees were over-represented among those experiencing difficulties with recruitment. Organisations with a greater need for employees with a higher level human capital will probably find recruitment more difficult because of their requirements will be more demanding.

Graph 17. Enterprises experiencing difficulties in the recruitment of recent graduates according to the percentage of employees with a higher education degree in the enterprise

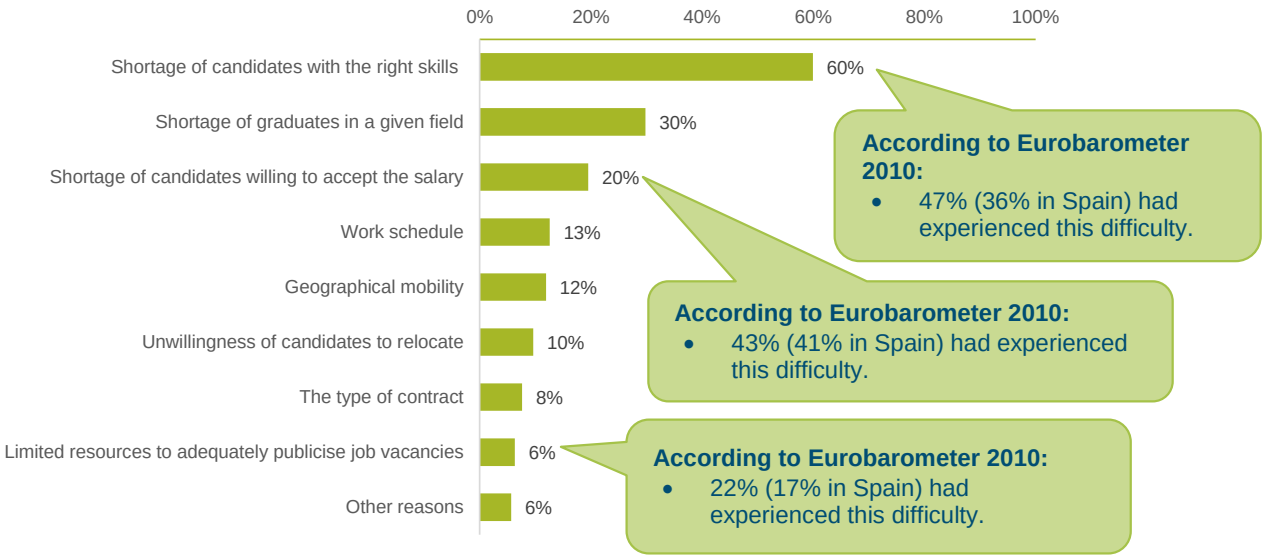


There are different reasons why employers may have difficulties with the recruitment of recent graduates. Among the recruiting organisations in the sample, the main difficulty was the shortage of candidates with the right skills (60%), which is consistent with the other surveys (The Gallup Organisation, 2010; Winterbotham et al., 2014). Other reasons making recruitment difficult were the shortage of graduates in a given field (30%) and a shortage of applicants willing to accept the salary offered (20%). A difficulty in being able to offer a competitive starting salary was a reason stated by 40% of graduate employers in Europe (The Gallup Organisation, 2010).

Other specified reasons with a lower percentage rating were issues with unwillingness to adapt to the work schedule (13%), geographical mobility (12%), unwillingness to relocate (10%) and type of contract (8%). Several enterprises in the sample also stated they had difficulties in marketing job vacancies adequately (6%).

The two main difficulties with recruitment related to a shortage of graduates, while other reasons were linked to working conditions (salary, work schedule, geographical mobility, etc.). Some of the difficulties can therefore be attributed to supply in the labour market (i.e. workers), whereas others have to do with demand (i.e. employers, as they are unable to offer better job conditions).

Graph 18. Reasons why enterprises had difficulties in recruiting recent graduates



NB: Given that enterprises could give more than one reason for difficulty in recruitment, the total percentage does not come to 100.

Not all enterprises experienced these difficulties to the same degree. Compared to the survey average, large enterprises had fewer difficulties in filling their job vacancies due to a shortage of candidates with the right skills (50%), although they had more difficulties in finding graduates in a given field (34%) and due to issues with geographical mobility (22%) and work schedule (16%).

Medium-size enterprises had more issues with the geographical mobility of candidates (18%) compared to the average survey values. Small enterprises stand out for having more difficulties in finding candidates with the right skills (66%) and who were willing to accept the salary (24%) or type of contract (10%). In the case of micro-enterprises, there was no marked difference from the mean values for any of the reasons given.

Table 10. Distribution of the difficulties with recruitment according to the size of enterprise

	Micro-enterprise	Small enterprise	Medium enterprise	Large enterprise	Mean value
Shortage of candidates with the right skills	55.32%	65.71%	61.97%	50.00%	59.93%
Shortage of graduates in a given field	32.98%	29.52%	23.94%	34.38%	29.80%
Shortage of candidates willing to accept the salary	21.28%	23.81%	14.08%	12.50%	19.54%
Work schedule	12.77%	14.29%	8.45%	15.63%	12.58%
Geographical mobility	5.32%	10.48%	18.31%	21.88%	11.92%
Unwillingness to relocate	9.57%	8.57%	11.27%	9.38%	9.60%
Unwillingness to accept the type of contract	8.51%	10.48%	4.23%	3.13%	7.62%
Limited resources to adequately publicise job vacancies	6.38%	9.52%	4.23%	0.00%	6.29%
Other reasons	2.13%	2.86%	12.68%	9.38%	5.63%

An analysis of the differences in the difficulties with recruitment according to the percentage of graduate employees in the organisation shows that enterprises with less than 30% graduate employees had fewer difficulties in finding candidates with the right skills (49%) and in a given field (25%), but they had more difficulties due to the reasons associated with conditions in the workplace: adaptation to the work schedule (20%), geographical mobility (17%), unwillingness to relocate (15%) and type of contract (11%). The main difficulty of organisations with over 30% of graduate employees was the shortage of candidates with the right skills (65%).

5. SKILLS OF RECENT GRADUATES

The skills that employers in the sample considered to be the most important were demonstrating responsibility at work (8.9 out of 10), the ability to acquire new knowledge (8.4) and team working (8.3). The least important were negotiation skills (6.4) and leadership (6.6).

The overall satisfaction of employers with the skills of recent graduate recruits was 7 out of 10 (medium to high).

The skills that they were most satisfied with were computer skills (7.9 out of 10), demonstrating responsibility at work (7.6), team working (7.5), theoretical skills (7.2) and the ability to acquire new knowledge (7).

There was no marked variation in the levels of importance of and satisfaction with the skills of recent graduates according to branch of activity nor size of the organisation, except for foreign language skills.

The areas where there was more scope for improvement in fulfilling the requirements of enterprises was in problem solving, practical skills and the ability to generate new ideas.

5.1. Employers' views concerning the importance of the skills of recent graduates and their actual satisfaction with their graduate recruits' skills

As stated in the introduction to this report, the main objective of this study was to obtain information on the views of employers' concerning the skills of recent graduates. Their evaluation of graduates' skills was made from a dual perspective of their importance or relevance in the world of work, and their satisfaction with their graduate recruits' skills. This dual perspective makes it possible to identify the skills that are most extensively required in the labour market (the most important ones) and employers' satisfaction with the level of these skills acquired by their graduate recruits through their studies at a higher education institution (university). In order to be able to prioritize where improvements are most necessary in this regard, focus needs to be put on the skills with the biggest disparity between the level of satisfaction and level of importance, instead of focusing just on those with a low level of satisfaction (Allen, Van Der Velden, 2005).

In order to assess the skills of recent graduates, there needs to have been some kind of employment-related contact. The results presented here therefore correspond to employers that recruited recent graduates in the last five years, as described in previous sections.

The skills evaluated include theoretical skills, practical skills, cognitive skills, personal management skills, instrumental skills, interpersonal skills, a positive attitude and professional ethics (see group 3, annex 2 for a detailed list). Given that the survey focuses on employers and their evaluation of the skills of graduates from different areas of study, only skills established as being relevant for work in general terms were considered,[1] with specific skills in each field being omitted, as in other surveys (Freire Seoane, 2007).

Graph 19 shows the mean importance of each skill from the point of view of employers in the sample that recruited recent graduates in the last five years. The skill most highly valued by far was demonstrating responsibility at work (8.9 out of 10), followed by the ability to acquire new knowledge (8.4), team working (8,3) and computer skills and problem solving (8,2). These skills coincide with those mostly highly valued in other similar studies (Figueras Moreno, 2013; Freire Seoane, 2007), with demonstrating responsibility at work always being considered to be most important. According to a survey carried out in the province of Tarragona, employers considered responsibility, self-discipline and integrity to be pre-requisites for acquiring a job, although they also expected university graduates to demonstrate involvement, commitment and flexibility in adapting to a job (Figueras Moreno, 2013).

The main results of the Eurobarometer survey on the skills of recent graduates indicate the high value given to team working, sector-specific skills, communication skills, computer skills, the ability to adapt to and act in new situations, reading and writing skills, and analytical and problem solving skills. The skill least highly valued was foreign language skills, even though this is a skill required of graduates.

It is worth pointing out the low level of importance given to good numeracy skills (7 out of 10), a skill that is under-valued in relative terms. According to the Eurobarometer survey, good numeracy skills were valued less highly in Spain than in most other countries (The Gallup Organisation, 2010).

[1] A factor analysis of the importance of recent graduate skills gives a reliability on the scale of 0.865.

Graph 19. Mean importance of the skills of recent graduates

According to Eurobarometer 2010, the most highly valued skills were:
- Team working
- Sector-specific skills
- Communication skills

According to the AQU Catalunya 2014 survey on graduate employment outcomes, the skills most highly valued by graduates because of their usefulness at work were:
- Problem solving
- Decision-making
- Team working

The order in the level of importance of these skills does not follow any clear pattern. There was a combination of different skills that include cognitive, instrumental, inter-personal, theoretical and practical skills, together with a positive attitude and professional ethics. It would therefore appear that employers in the sample value a combination of different types of skills, without establishing a hierarchy of any particular skills over other ones.

A factor analysis of the importance of skills, which accounted for 54% of the variance, shows three factors: one associated with resolutive skills (problem solving, the ability to acquire new knowledge, ability to work independently, practical skills, decision-making), another connected with inter-personal skills (leadership, negotiation, communication, languages) and a third one involving either technical or domain-specific skills (theoretical knowledge, numeracy skills and computer skills).

As regards the mean satisfaction with the skills of recent graduates as shown in graph 20, the first thing worth mentioning is the general pass rate. On a scale from 1 to 10, overall satisfaction with graduate skills as a whole was 7 (medium to high). Taking each skill separately, the mean satisfaction was, in all cases, higher than a pass mark of 5.[2] The skills that employers were most

[2] A factor analysis of employers' satisfaction with the skills of recent graduates gives a reliability on the scale of 0.94.

satisfied with were computer skills (7.9 out of 10), demonstrating responsibility at work (7.6), team working (7.5), theoretical skills (7.2) and the ability to acquire new knowledge (7).

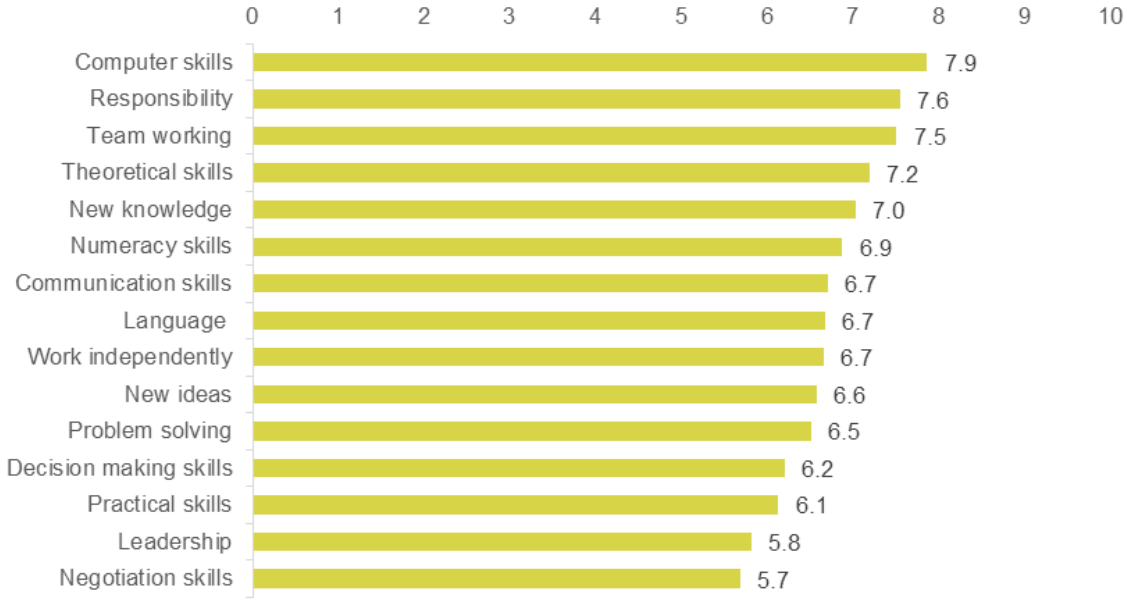
Graph 20. Mean satisfaction with recent graduate skills

According to Eurobarometer 2010, the skills with the highest level of employer satisfaction were:

- Computer skills
- Good reading/writing skills
- Team working

According to the AQU Catalunya 2014 survey on graduate employment outcomes, the skills in which graduates believed they were best trained in were:

- Theoretical skills training
- Team working
- Critical thinking



The skills with the lowest level of employer satisfaction were negotiation skills (5.7 out of 10) and leadership (5.8). These skills also came last in terms of importance. This is not surprising, given that they are interpersonal skills associated with higher-ranking positions and profiles with more work experience. One can therefore conclude that these are not skills expected of recent graduates in their initial experiences in the labour market.

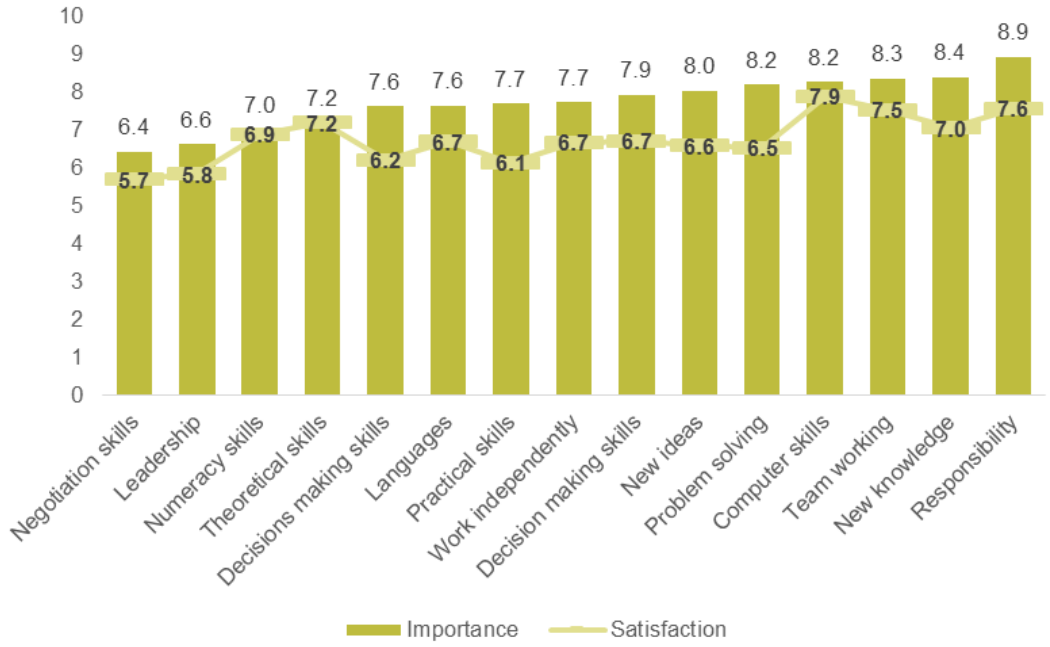
A factor analysis of employers' satisfaction with graduate skills, which accounted for 63% of the variance, shows two factors: the first includes both resolutive skills (problem solving, the ability to acquire new knowledge, autonomous study, practical skills, decision-making) and inter-personal skills (leadership, negotiation, communication, team working), whereas the second includes technical and domain-specific skills (theoretical knowledge, numeracy skills and computer skills).

5.2. Comparison between employers' views concerning the importance of the skills of recent graduates and their actual satisfaction with their employees' skills

Graph 21 shows the mean importance of each skill compared to the mean satisfaction of employers with their recent graduate employees' skills. In all cases, the level of employer satisfaction with graduate skills was lower than the level of importance, except in the case of theoretical skills, where there was a perfect match between the levels of importance and satisfaction.

In the European study, employers were in general satisfied with graduate skills, given that the differences between the importance of the skills of recent graduates and employer satisfaction with graduate skills were not very great (The Gallup Organisation, 2010).

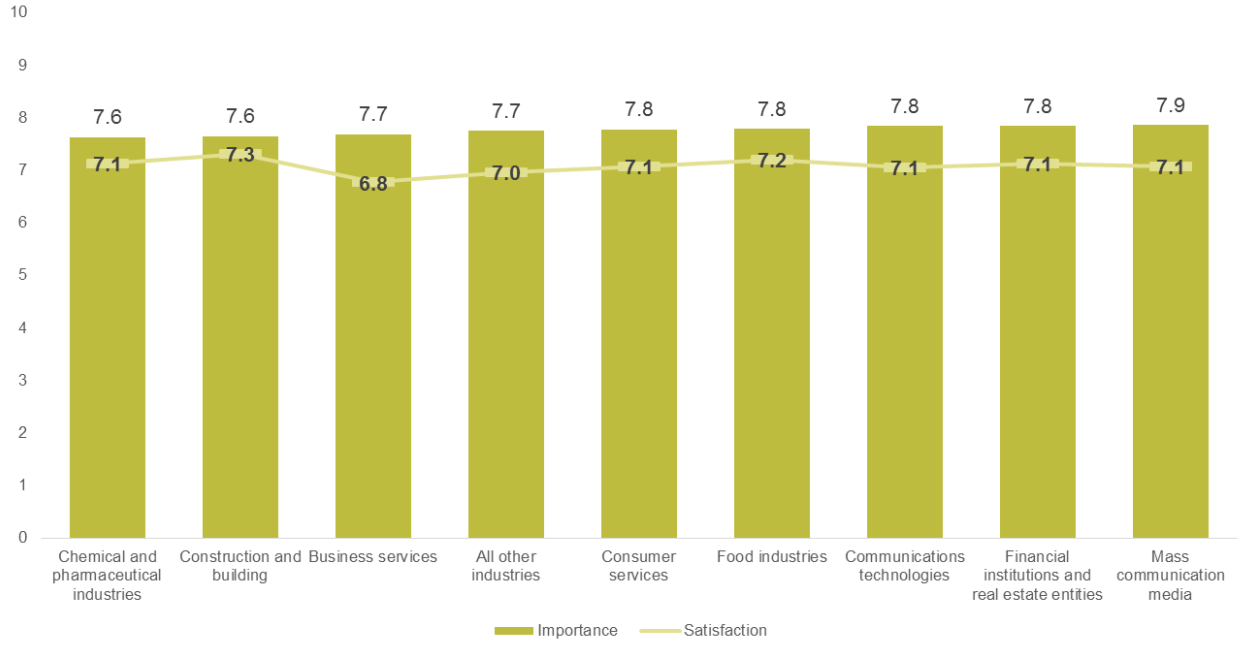
Graph 21. Comparison between the mean values for employers' views concerning the importance of and their satisfaction with the skills of recent graduates



A positive trend can be seen between the importance given to each skill and the level of satisfaction with the skill, i.e. the greater the importance given to a skill, the higher the level of employer satisfaction with that skill. Given that it is a matter of subjective assessment, employers tend to recruit according to the skills they consider to be most important; it is therefore logical for the level of satisfaction to be close to that of importance, as an employer will choose those candidates who better fulfil their selection criteria.

If the information is broken down according to branch of activity, as shown in graph 22, there were no marked differences between the mean values for the importance of and general satisfaction with the skills of recent graduates. It would thus appear that a university education does provide the skills considered in the survey in a similar way across the different branches of activity.

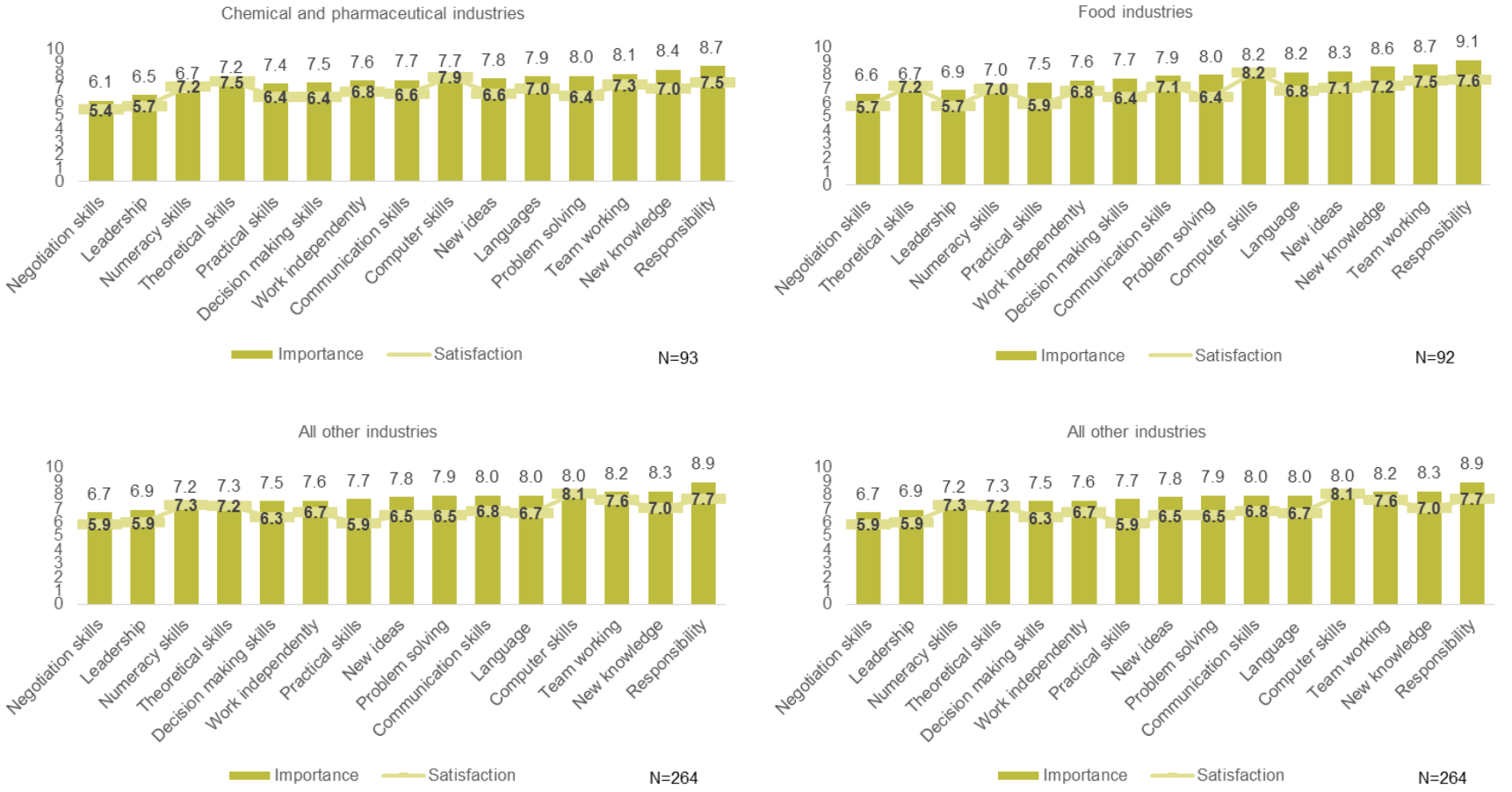
Graph 22. Comparison between the overall mean values for employers' views concerning the importance of and their satisfaction with the skills of recent graduates according to branch of activity

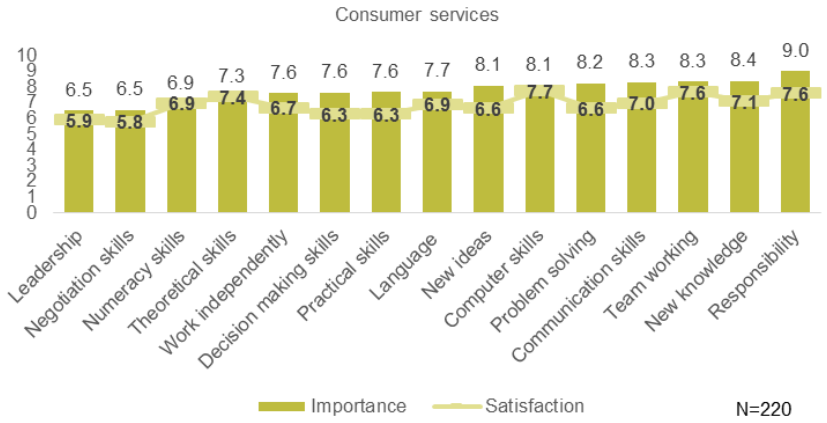


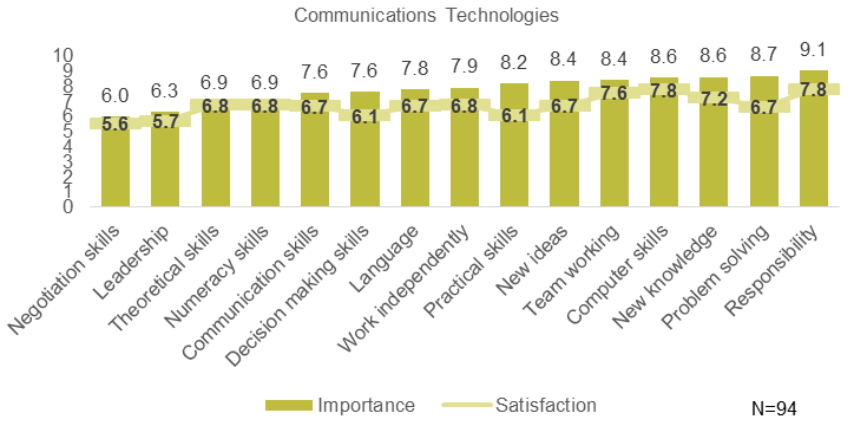
As regards the assessment of each skill according to branch of activity (graph 23), the main difference lies in the importance given to foreign language skills. In the chemical and pharmaceutical industries, the food industries and all other industries, foreign language skills occupied an above-average position, whereas in the case of construction and building, mass communication media and business services this skill was not so highly valued. For the other branches foreign language skills occupied an intermediate position.

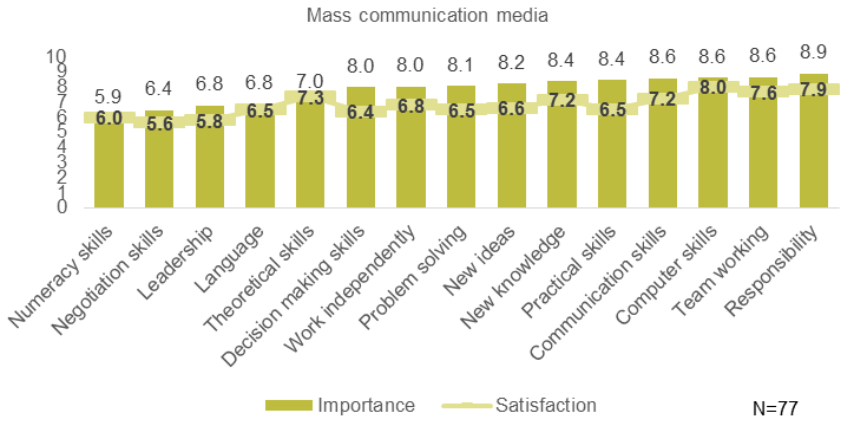
In terms of the similarities, on the one hand, the ability to acquire new knowledge was seen to be one of the most important skills and more highly valued in all branches of activity apart from mass communication media; on the other hand, numeracy skills were rated as having a low level of importance and satisfaction compared to other skills in all branches of economic activity apart from financial institutions and real estate entities.

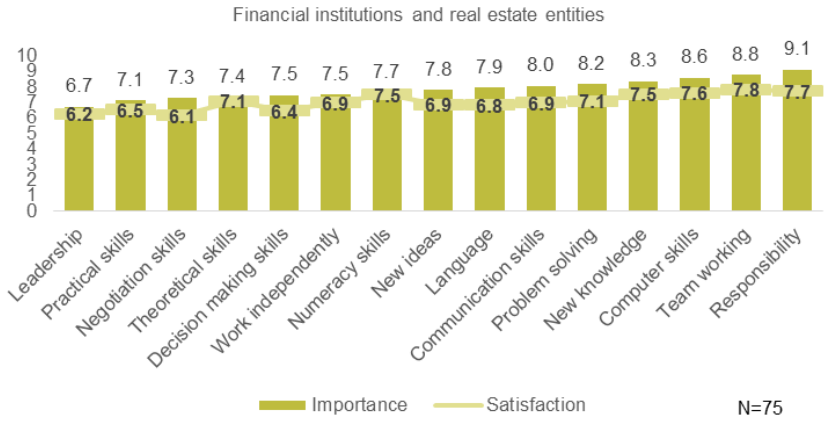
Graph 23. Comparison between the mean values for employers' views concerning the importance of and their satisfaction with the skills of recent graduates according to branch of activity

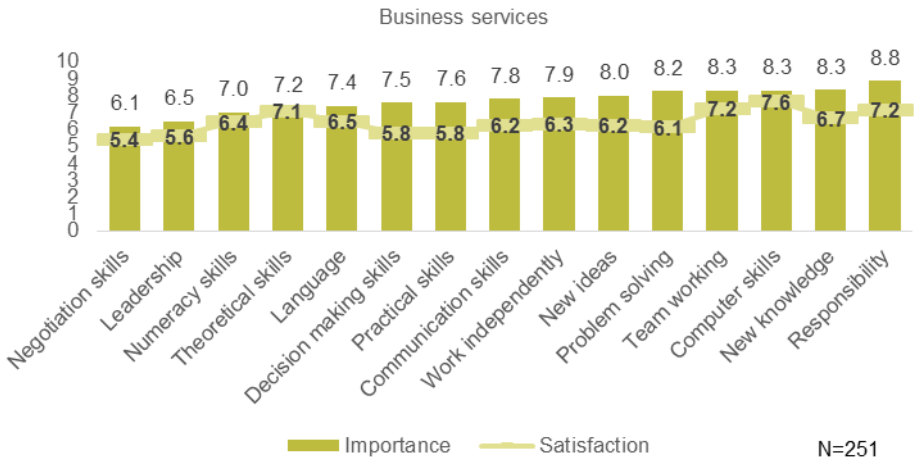



Consumer services
Leadership 6.5 5.9
Negotiation skills 6.5 5.8
Numeracy skills 6.9 6.9
Theoretical skills 7.3 7.4
Work independently 7.6 6.7
Decision making skills 7.6 6.3
Practical skills 7.6 6.3
Language 7.7 6.9
New ideas 8.1 6.6
Computer skills 8.1 7.7
Problem solving 8.2 6.6
Communication skills 8.3 7.0
Team working 8.3 7.6
New knowledge 8.4 7.1
Responsibility 9.0 7.6
Importance
Satisfaction
N=220


Communications Technologies
Negotiation skills 6.0 5.6
Leadership 6.3 5.7
Theoretical skills 6.9 6.8
Numeracy skills 6.9 6.8
Communication skills 7.6 6.7
Decision making skills 7.6 6.1
Language 7.8 6.7
Work independently 7.9 6.8
Practical skills 8.2 6.1
New ideas 8.4 6.7
Team working 8.4 7.6
Computer skills 8.6 7.8
New knowledge 8.6 7.2
Problem solving 8.7 6.7
Responsibility 9.1 7.8
Importance
Satisfaction
N=94


Mass communication media
Numeracy skills 5.9 6.0
Negotiation skills 6.4 5.6
Leadership 6.8 5.8
Language 6.8 6.5
Theoretical skills 7.0 7.3
Decision making skills 8.0 6.4
Work independently 8.0 6.8
Problem solving 8.1 6.5
New ideas 8.2 6.6
New knowledge 8.4 7.2
Practical skills 8.4 6.5
Communication skills 8.6 7.2
Computer skills 8.6 8.0
Team working 8.6 7.6
Responsibility 8.9 7.9
Importance
Satisfaction
N=77


Financial institutions and real estate entities
Leadership 6.7 6.2
Practical skills 7.1 6.5
Negotiation skills 7.3 6.1
Theoretical skills 7.4 7.1
Decision making skills 7.5 6.4
Work independently 7.5 6.9
Numeracy skills 7.7 7.5
New ideas 7.8 6.9
Language 7.9 6.8
Communication skills 8.0 6.9
Problem solving 8.2 7.1
New knowledge 8.3 7.5
Computer skills 8.6 7.6
Team working 8.8 7.8
Responsibility 9.1 7.7
Importance
Satisfaction
N=75

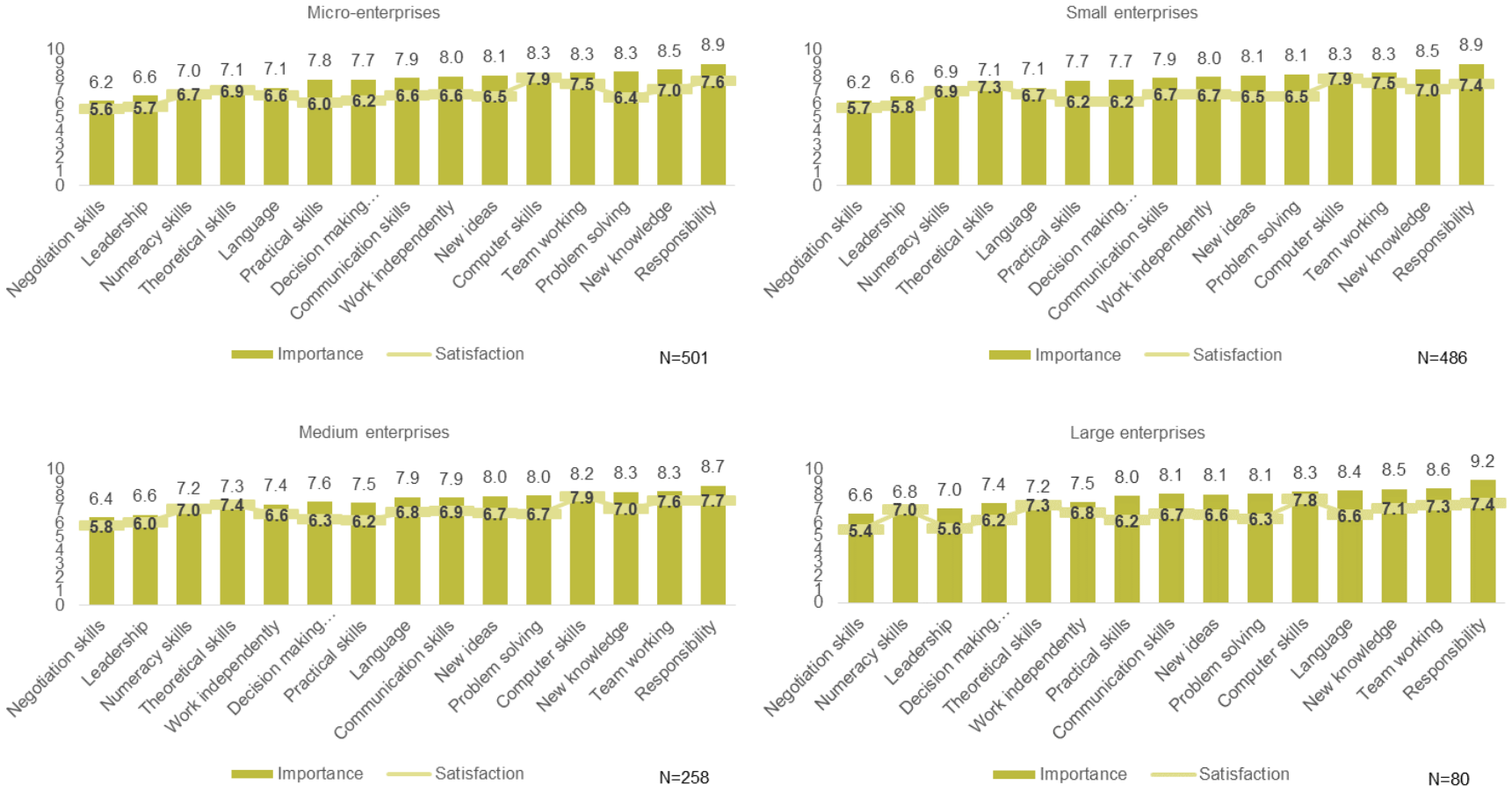


As regards the coincidences, the skill most highly assessed in all branches of activity was demonstrating responsibility at work, together with the ability to acquire new knowledge and team working. As regards the least highly valued skills, negotiation skills, leadership and theoretical skills were considered to be of least importance in all branches of activity.

In terms of the size of organisation, it can be seen that both the differences and similarities were similar to the above according to branch of economic activity. Graph 24 shows that the mean score for importance and satisfaction does not vary to any marked degree according to the number of employees in the organisation. There is also no variation in the order of importance of each skill, apart from foreign language skills. Micro-enterprises and small enterprises did not attach very much importance to languages whereas medium and especially large enterprises considered them to be more important. This result relates to what is shown in graph 2, with regard to the percentage of sales in the local area, Catalan, Spanish and international markets. Given that a larger proportion of the sales of medium and large-sized enterprises are for the international market, it makes sense that they attach more importance to foreign language skills.

In a similar way to the results according to branch of activity, the most highly valued skills for all enterprises were demonstrating responsibility at work, together with the ability to acquire new knowledge and team working, whereas those valued the least were communication skills, negotiation skills and numeracy skills. Other surveys have shown that team working is a particularly highly valued skill in Spain in comparison with other countries (The Gallup Organisation, 2010).

Graph 24. Comparison between the mean values for employers' views concerning the importance of and their satisfaction with the skills of recent graduates according to the size of enterprise



5.3. Scope for improvement in the skills of recent graduates

The focus in the sections above has been the mean levels of importance and satisfaction with the skills of recent graduates. The following section explores the differences between the level of satisfaction and the level of importance of these skills.

If one looks at the difference between the mean values for satisfaction and importance of the different skills, negative values indicate a skills gap, where there is scope for improvement. Positive values on the other hand indicate overtraining in skills from the employers' point of view, whereas a score of zero would indicate a perfect match in the skill.

Graph 25 shows the differences between the mean values for satisfaction and importance. For all skills the difference is negative, except for theoretical skills. It can therefore be regarded that the employers in the sample were of the opinion that there is scope for improvement in all skills except for theoretical skills. The level of mismatch between satisfaction and importance is not very big however. The biggest difference is in problem solving (-1.7), followed by practical skills (-1.6) and the ability to generate new ideas (-1.5). No other deficits are identified in any specific type of skill, although a skills gap is evident in cognitive as well as inter-personal, instrumental and practical skills.

Similarly, a survey carried out by the Universidade da Coruña (Galicia) has shown that the skills where there is biggest scope for improvement are problem solving, decision-making and practical skills (Freire Seoane, 2007). Unlike the AQU Catalunya survey, the Universidade da Coruña survey compares the level of skills stated by the graduates in the university's employment outcomes survey (supply) with the level of importance attached by enterprises to the skills (demand).

Other studies where qualitative information has been available point out that employers consider young graduates to have a good academic education and theoretical skills, but that they clearly lack practical skills and work experience, together with the fact that they unwilling to make sacrifices or be flexible and adapt to the needs and requirements of the organisation, which the employers view as a "a low level culture of endeavour" (Figueras Moreno, 2013).

Graph 25. Difference between the mean values for employers' views concerning the importance of and their satisfaction with the skills of recent graduates

According to the AQU Catalunya 2014 survey on graduate employment outcomes, university graduates considered their biggest education-job skills deficit to be languages, decision-making and computer skills (AQU Catalunya, 2014). It should be pointed out that the demands of graduates (the difference between the level of skills training and their usefulness in their job) are higher than those of employers (the difference between the level of satisfaction and importance), so graduates can be regarded as being more critical about the level of education received in their university studies and its practical application than enterprises.

The skill deficit, as is evident from the difference between the mean values for the satisfaction with and importance of skills according to employers, varied across the different branches of economic activity as can be seen from graph 26.

The biggest skill gap in the majority of branches of activity was in problem solving. In all branches of activity, except for construction and building, the scope for improvement in this skill was more than 1 point, whereas the biggest difference was 2.1 in business services.

As regards the gap in practical skills, there was more than one point difference in the majority of branches of activity between the level of satisfaction with and the importance of practical skills. The branches with a bigger deficit in practical skills were communication technologies and all other industries (branches associated with degrees in Engineering). Conversely, the branches with the smallest deficit were the chemical and pharmaceutical industries, construction and building, and financial institutions and real estate entities (deficit in practical skills equal to or below 1 point).

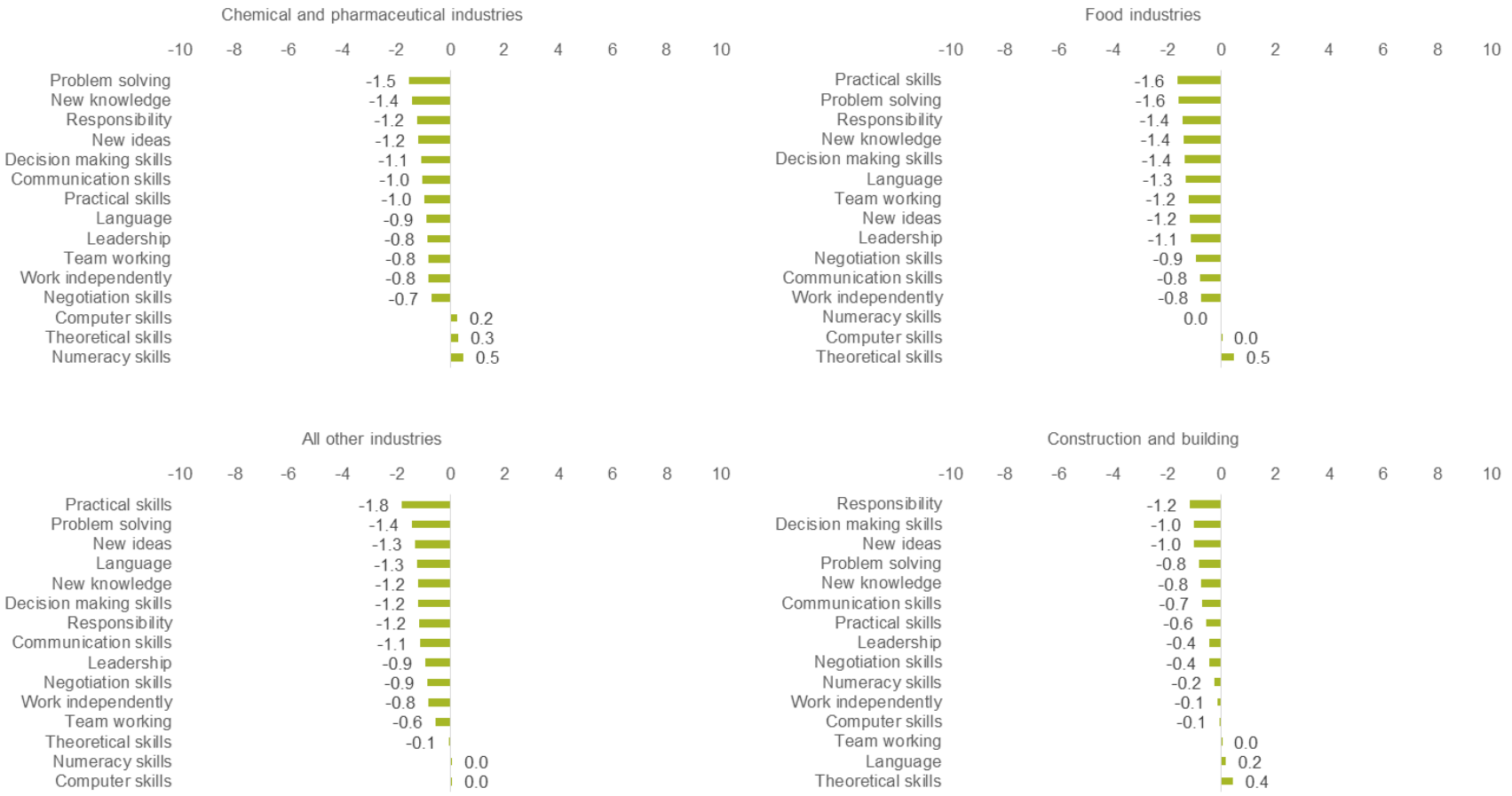
Foreign language skills showed one of the biggest variations according to branch of activity. The skills deficit was not very high in the chemical and pharmaceutical industries, consumer services, mass communication media and business services (below 1 point), whereas in the food industries, all other industries, communication technologies and financial institutions and real

estate entities the deficit was more than 1 point. Construction and building was the only branch where there was a slight excess in foreign language skills.

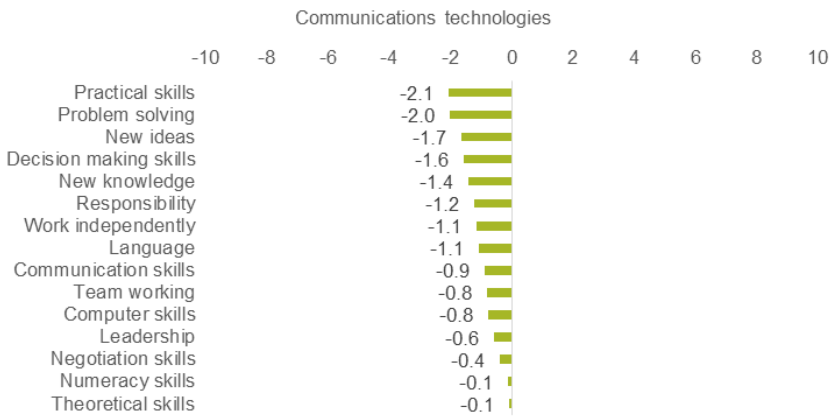
In all branches of activity there was a match for theoretical skills. Aside from business services, there was also a match in numeracy skills in all other branches of activity with little scope for improvement in this skill, according to the employers' ratings in the survey.

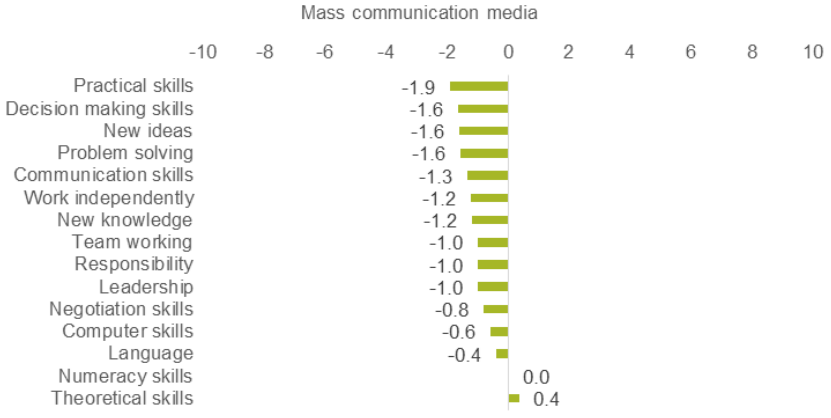
Broadly speaking, the branches of economic activity with the lowest skills deficit were construction and building and financial institutions and real estate entities, whereas the highest level of skills deficit was in communication technologies and business services.

Graph 26. Difference between the mean values for employers' views concerning the importance of and their satisfaction with the skills of recent graduates according to branch of activity

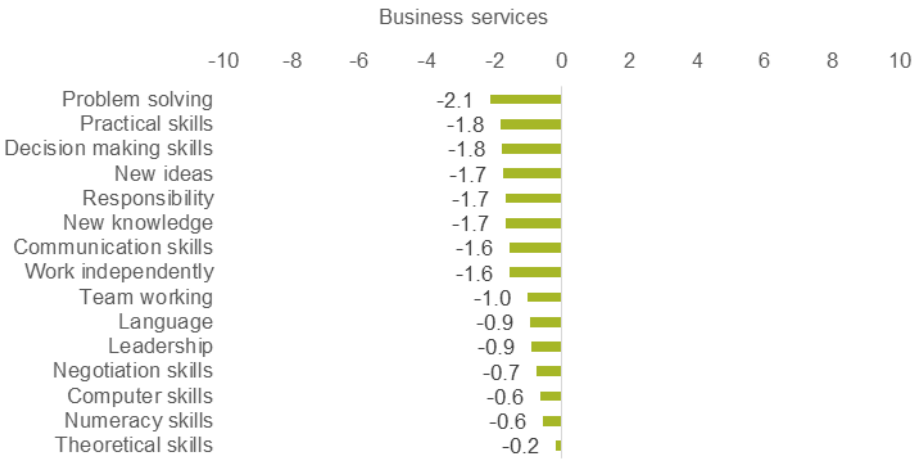



Consumer services
-10 -8 -6 -4 -2 0 2 4 6 8 10
Problem solving -1.6
New ideas -1.4
Responsibility -1.4
Practical skills -1.4
Decision making skills -1.3
Communication skills -1.3
New knowledge -1.3
Work independently -0.9
Language -0.8
Negotiation skills -0.7
Team working -0.7
Leadership -0.6
Computer skills -0.4
Theoretical skills 0.0
Numeracy skills 0.1


Communications technologies
-10 -8 -6 -4 -2 0 2 4 6 8 10
Practical skills -2.1
Problem solving -2.0
New ideas -1.7
Decision making skills -1.6
New knowledge -1.4
Responsibility -1.2
Work independently -1.1
Language -1.1
Communication skills -0.9
Team working -0.8
Computer skills -0.8
Leadership -0.6
Negotiation skills -0.4
Numeracy skills -0.1
Theoretical skills -0.1

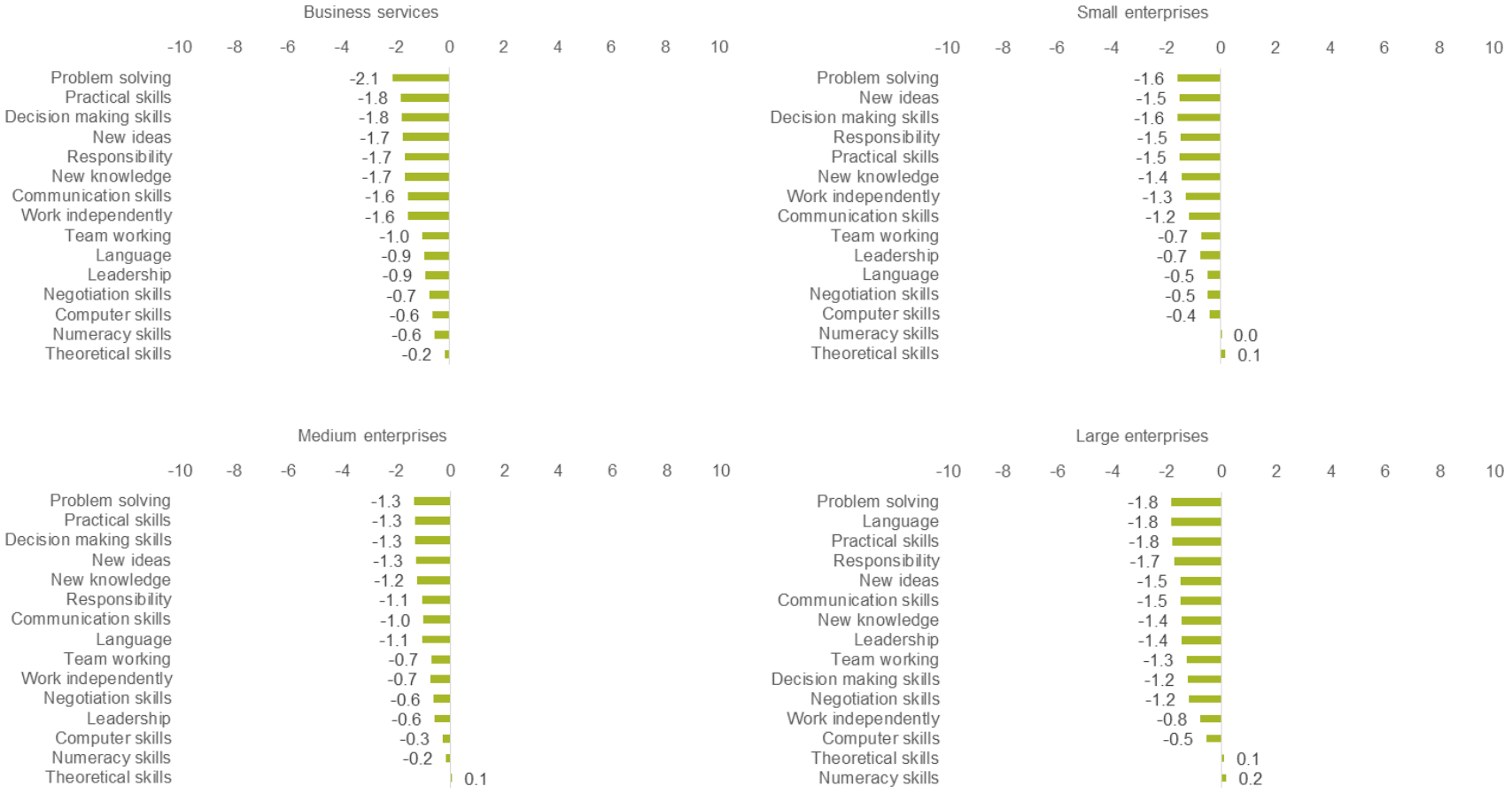

Mass communication media
-10 -8 -6 -4 -2 0 2 4 6 8 10
Practical skills -1.9
Decision making skills -1.6
New ideas -1.6
Problem solving -1.6
Communication skills -1.3
Work independently -1.2
New knowledge -1.2
Team working -1.0
Responsibility -1.0
Leadership -1.0
Negotiation skills -0.8
Computer skills -0.6
Language -0.4
Numeracy skills 0.0
Theoretical skills 0.4


Financial institutions and real estate entities
-10 -8 -6 -4 -2 0 2 4 6 8 10
Responsibility -1.4
Language -1.1
Negotiation skills -1.1
Problem solving -1.1
Decision making skills -1.1
Communication skills -1.0
Computer skills -1.0
Team working -1.0
New ideas -0.9
New knowledge -0.8
Practical skills -0.6
Work independently -0.6
Leadership -0.5
Theoretical skills -0.3
Numeracy skills -0.2



Focusing on the differences between the mean values for satisfaction with and the importance of skills according to the size of the enterprise (graph 27), two issues stand out. The first is that it is the large enterprises that stated there was a broad deficit of foreign language skills. This is consistent with the fact that large enterprises on average have a higher share of the international market, as shown in graph 2. The second is that the requirements of micro-enterprises and large enterprises as regards the skills of recent graduates are more demanding. The biggest scope for improvement in micro-enterprises, medium-size enterprises as well as large enterprises was in problem solving and practical skills, whereas there was either less or no scope for improvement in theoretical skills and numeracy skills.

Graph 27. Difference between the mean values for employers' views concerning the importance of and their satisfaction with the skills of recent graduates according to the size of enterprise



6. WORKPLACE TRAINING FOR RECENT GRADUATES

74% of the enterprises recruiting recent graduates provided them with some kind of workplace training.

The main reasons were to improve sector-specific skills (79%), assist employees in adapting to the characteristics and culture of the enterprise (65%) and improve soft skills (48%). Training due to a shortage of basic knowledge (34%) and to improve foreign language skills (33%) were other reasons taken into account.

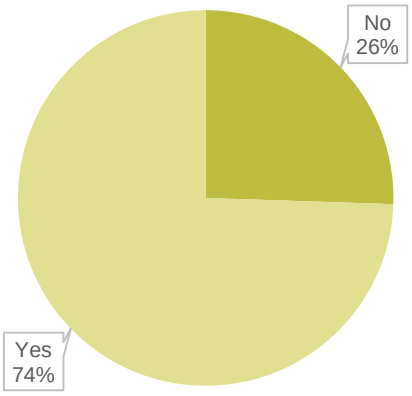
It would appear that micro-enterprises and small enterprises find it more difficult to provide training for recent graduates than medium and large-sized enterprises.

6.1. Workplace training

One of the main roles of the university is to form and train graduates in knowledge and skills that are useful for the labour market. It cannot be responsible however for all of their training and much less so when this needs to be highly specialised and either sector or job-specific. While the university is expected to provide knowledge and skills of a more general and soft-skill nature, it is enterprises that should be responsible for training recent graduates in the skills and practices that are more specific to both the individual sector and the company (Mourshed et al., 2012).

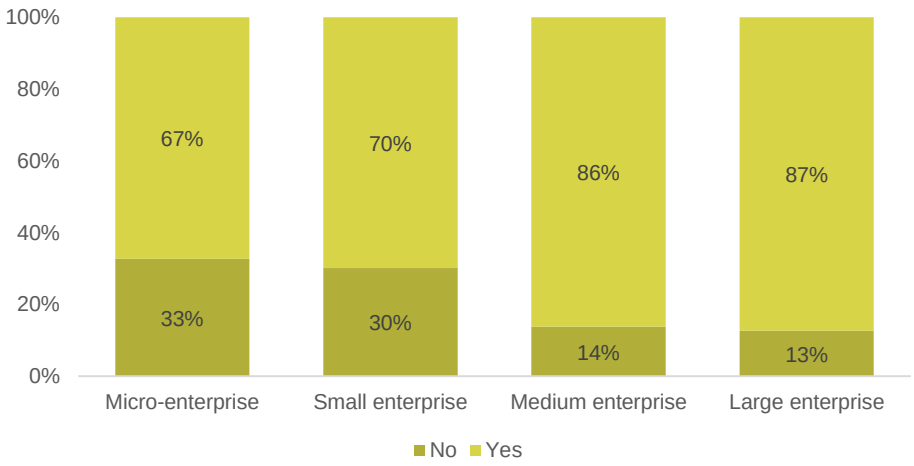
The majority of organisations take into consideration this requirement and responsibility to train their graduate recruits and complement the knowledge and skills they acquired at university. As can be seen from graph 28, three quarters of all enterprises in the sample that recruit recent graduates provided them with some kind of training. This percentage is very high compared to average figures in Europe, according to which only one third of all enterprises provide some form of training to their graduate employees (The Gallup Organisation, 2010) and employees as a whole (Winterbotham et al., 2014). This proportion varies considerably according to country, ranging from over 66% in Austria and the UK to less than 20% Romania and Bulgaria. At European level, there has also been a decrease in the level of investment in training in recent years.

Graph 28. Workplace training of recent graduates in the enterprise



If one looks at training and the size of enterprise, however, there are clear differences. Graph 29 shows that micro-enterprises (66%) and small enterprises (70%) provided training to a less degree than medium (86%) and large enterprises (88%).

Graph 29. Workplace training of recent graduates according to the size of the enterprise



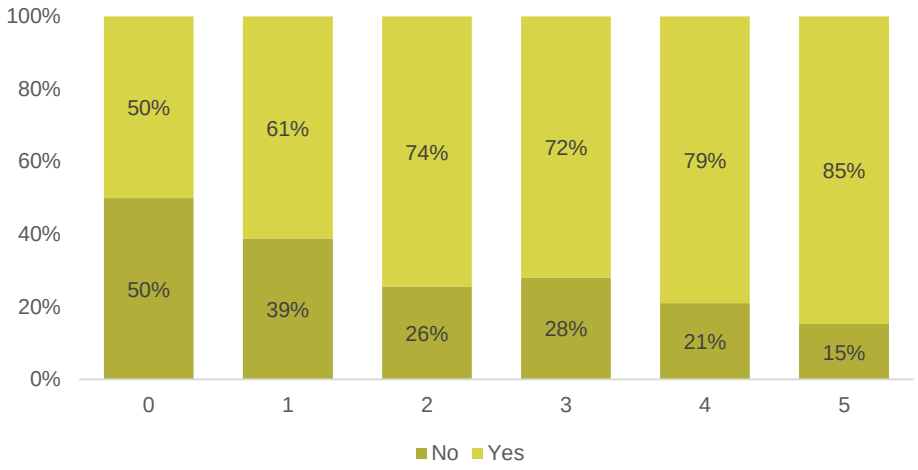
This difference according to the number of employees could mean two things: either micro-enterprises and small enterprises have less of a need for specific training, or it is a bigger challenge for enterprises with fewer employees to provide their employees training. Aside from the need and willingness to provide specific training for recent graduates, smaller organisations may have more limitations in terms of resources and available time for training.

There were no differences in the training of recent graduates according to the percentage of graduate employees in the organisation. It would therefore appear that the hypothesis of it being

a bigger challenge for small enterprises to provide training is more probable compared to there being less of a need.

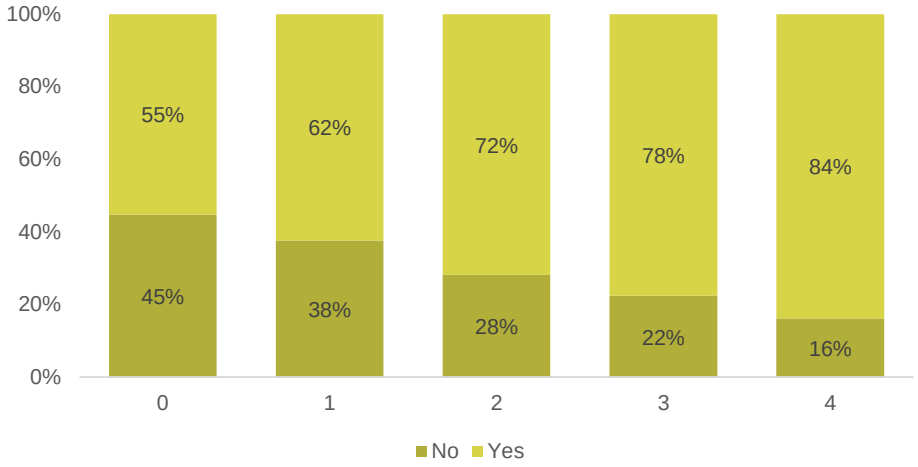
On the other hand, there were differences in the workplace training of recent graduates according to the indices for innovation and human resource management (HRM). It can be seen from graph 30 that the higher the score on the innovation index, the more workplace training in the enterprise. The same thing occurs in the case of flexibility in HRM. As can be seen from graph 31, the higher the score on the HRM index, the higher the percentage of organisations who stated they carry out workplace training for recent graduates. These results compare with those obtained in the UK study (Winterbotham et al., 2014), and it would appear that the evidence points to the fact that organisations of these characteristics are the ones that provide more training to recent graduates.

Graph 30. Workplace training of recent graduates according to the innovation index



NB: The index indicates the number of productive innovation activities undertaken during the last three years. 1 indicates no productive innovation and 5 indicates five productive innovation activities (see question 23 in the survey in annex 2).

Graph 31. Workplace training of recent graduates according to the human resource management index



NB: The index indicates the number of HRM practices considered to be flexible and which promote graduate recruitment. 1 indicates the absence of any of these HRM practices in the organisation and 4 indicates the practice of all four types of HRM (see question 24 in the survey in annex 2).

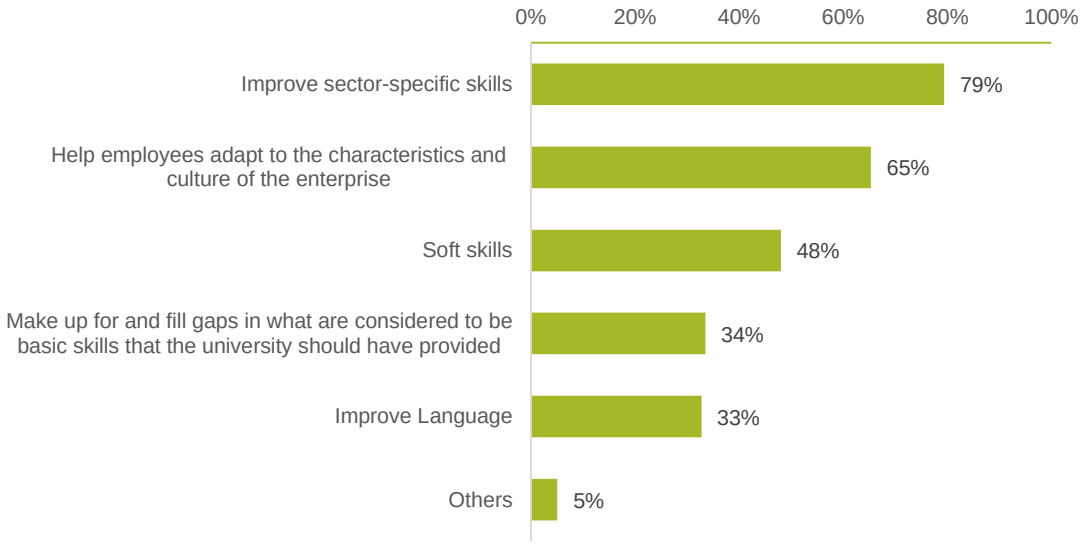
6.2. Reasons for workplace training

There are different reasons why enterprises provide training to recent graduate recruits: on the one hand, to improve specific knowledge and skills and, on the other, there is the need for training in more general and soft skills. While it is to be expected that enterprises provide graduate training in specific fields, training in general and soft skills in enterprises may point to the belief held by employers that there are gaps in the education level of their graduate recruits.

As can be seen from graph 32, the main reason given for workplace training was to improve sector-specific skills (79%). This is one of the reasons why organisations are expected to provide training, together with the need to assist employees in adapting to the characteristics and culture of the enterprise (65%), the second most important reason given by enterprises in the sample.

Enterprises also stated that they provide training for recent graduates in what they consider to be soft skills (48%), to make up for and fill gaps in what are considered to be general skills that the university should provide students (34%), and to improve foreign language skills (33%), which are theoretically the responsibility of the universities.

Graph 32. Reasons for the workplace training of recent graduates



NB: As enterprises could give more than one reason for training, the total percentage does not come to 100.

The different reasons for workplace training varied according to the size of the enterprise. Comparatively speaking, micro-enterprises and small enterprises said they provide training to improve sector-specific skills (82%) and to make up for and fill any gaps in basic skills (41% and 33%, respectively), whereas a higher percentage of higher medium and large-sized enterprises said workplace training was to improve soft skills (55%), improve foreign language skills (46% and 51%) and assist employees in adapting to the characteristics of the enterprise and the corporate culture (72% and 73%).

These differences according to the size of the organisation may be due to two reasons: either because their needs are different as a result of their size and different activity, or because the profile of graduates entering each type of organisation is different, together with their knowledge and skills.

To sum up, it can be concluded that employer enterprises give workplace training mainly to improve sector-specific aspects required by graduate employees, but also to address deficits in the education that graduates received at university. This would seem to contradict the analysis in the previous section where it is shown that the only area where there was no need for any improvement was theoretical skills and that training was necessary due to a deficit in soft skills. This aspect will be studied in the second stage of the Employers project, where a more in-depth study is to be made of these results and findings from a qualitative perspective.

7. ENTERPRISE-UNIVERSITY COOPERATION

More than 60% of the organisations cooperated with universities on a frequent basis by offering work placements (work experience and internships) to undergraduate students.

86% of the employers in the sample had never been involved in the design and/or shaping of curricula and study programmes.

According to employers in the survey, the best action for improving the employability of graduates is to include work experience as part of the curriculum.

7.1. Frequency of enterprise-university cooperation

The transition from university to the labour market is no easy task. For many young people university represents the completion of a long period of training in theoretical skills and the step to full-time work. In the majority of cases, they have had either very little or no contact at all with the labour market, so this transition needs to be accompanied and facilitated by both universities and enterprises to ensure that it is successful (Mourshed et al., 2012; Santiago et al., 2008a). The relationship between the universities and the labour market is highly complex as regards the formulation of public policy and there is intense discussion on the matter (Santiago et al., 2008a).

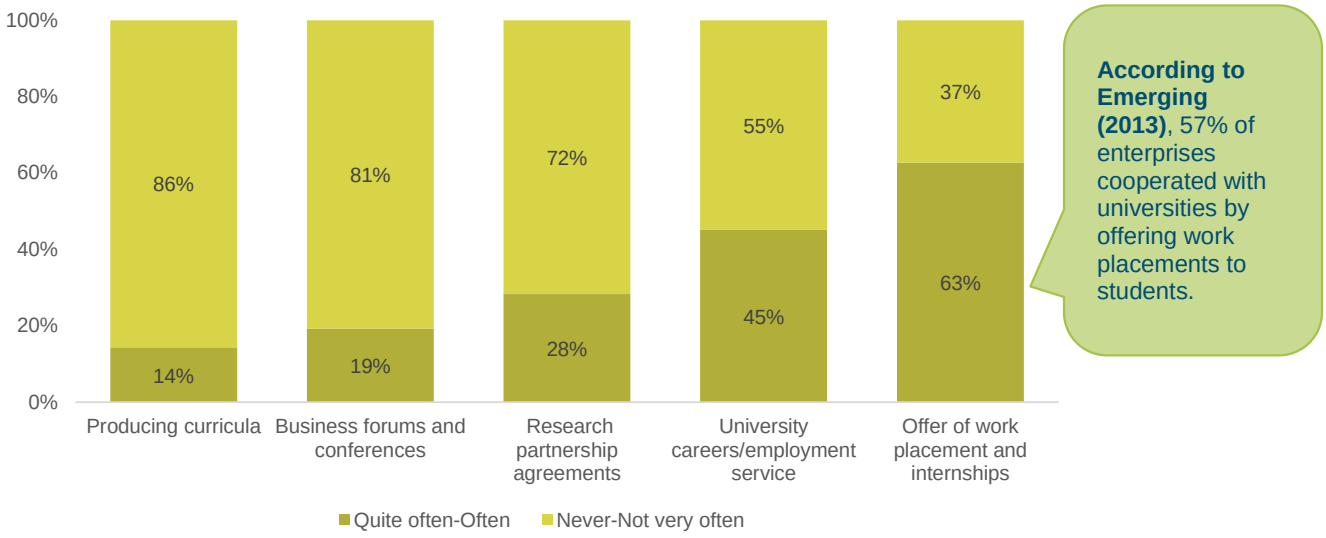
As can be seen from graph 33, one of the main ways for universities and enterprises to cooperate is through the offer of work experience and internships (work placements), in line with the trend at both European and global level (The Gallup Organisation, 2010; Emerging, 2013). The majority of organisations stated they offer work placements to universities either on a very often or quite often basis (63%).

The second most extensive form of cooperation was through the university careers and information services (or centres). 45% of the employers in the sample stated they cooperate with these university services with announcements of jobs and/or recruitment opportunities, and on a very often or quite often basis.

Another way of cooperating was by participating in the design and/or shaping of curricula and study programmes. 86% of the employer organisations that responded to the survey stated that they had either never or rarely participated in the design and/or shaping of curricula and study

programmes. This figure is higher than in other international surveys, where the percentage of employers not participating in the design of curricula and study programmes was closer to 50% (Mourshed et al., 2012).

Graph 33. Frequency of enterprise-university cooperation

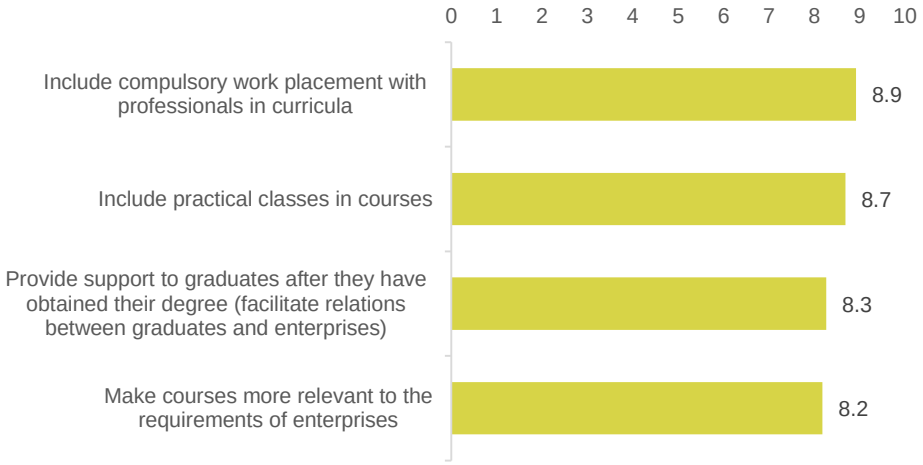


It would therefore appear that enterprises are more involved in the entry into work of graduates, but less involved in the design of university curricula and study programmes. Developing measures for cooperation in the design of curricula and study programmes and throughout programme delivery may be a way of facilitating entry to the labour market and increasing the employability of graduates. This way there would be greater communication and understanding between the stakeholders and a better match between the needs and expectations of both graduates and enterprises.

7.2. Actions to improve the employability of recent graduates

The ways in which organisations and universities most frequently cooperated coincide with what were considered by employers to be the most important ways for enhancing the employability of recent graduate recruits. Consistent with the evidence provided by similar surveys (UPC, 2004; Freire Seoane, 2007; The Gallup Organisation, 2010; Emerging, 2013; European Commission/EACEA/Eurydice, 2014), the specific action that employers viewed as being the most influential in improving graduate employability is a period of compulsory work experience as part of the curriculum and study programme. Given that some of the more highly valued skills according to employers have to do with graduates adapting to the workplace (demonstrating responsibility at work, team working, problem solving), a period of work experience in an enterprise or organisation seems a very logical way of ensuring the acquisition of skills that will later on be needed in the workplace.

Graph 34. Importance of the measures for improving graduate employability



Other actions considered to be equally important, as can be seen from graph 34, were:

- Including practical experience in courses to promote the application of theoretical skills in practical situations. This is also one of the measures proposed by employers at both European and Catalan level (The Gallup Organisation, 2010; Serra Ramoneda, 2007).
- Providing support to graduates once they have obtained their degree to guide them in their search for work in the labour market and facilitate communication between graduates and enterprises.
- Training courses that are more relevant to the company and/or sector. In spite of the fact that the focus of university education is a theoretical perspective aimed at providing knowledge that is non-specific to any particular sector or enterprise, there are skills that are common to different enterprises and sectors of activity. These skills can be identified and courses provided to promote and facilitate their acquisition.

There were no marked differences according to the size of organisation, rating or order of importance of the actions to improve graduate employability.

The aspects identified by employers as being important (a rating of over 8 out of 10) in improving the employability of recent graduates coincide with actions that are also regarded as being good practices at international level. In recent years, various agencies have been studying and compiling good practices in cooperation between universities and enterprises (Serra Ramoneda, 2007; Mourshed et al., 2012; QAA, 2014), several of which are given in table 11.

Table 11. Examples of good practices in enterprise-university cooperation

1. UNIVERSITY CURRICULUM
▪ **Inform employers about curriculum development and delivery so they can assess the study programme's relevance and validity** ▪ **Include professional associations and bodies and chambers of commerce in the ex ante accreditation (validation) of curricula and quality assurance** ▪ **Include staff from labour organisations in the ex ante accreditation (validation) of curricula** ▪ **Take into account the specific characteristics of each sector of activity in making the curriculum** ▪ **Promote practical subjects being included in the curriculum** ▪ **Promote final-year projects (Bachelor's degrees) and dissertations (Master's degrees) that are based on problem solving and the application in practical situations of acquired skills content** ▪ **Facilitate the recruitment of teaching staff from the world of work**
2. WORK PLACEMENT AND EXPERIENCE IN ENTERPRISES
▪ **Provide students with learning opportunities in jobs that involve real projects** ▪ **Focus work placement (experience and internships) in enterprises on the development and delivery of skills that are relevant in the world of work** ▪ **Set up (where necessary), develop and coordinate the universities' careers and information services so that they manage work placement and internship agreements, together with relevant quality assurance**
▪ **INFORMATION AND GUIDANCE**
▪ **Gather and facilitate information on the job characteristics and opportunities for graduates of the degree programme, and set up independent bodies and institutes that specialise in this** ▪ **Have the universities gather and facilitate information on the employment situation of their graduates both a few months and a few years after graduation** ▪ **Provide information to employers on the profile of the different study programmes, together with the expectations of graduates of these programmes** ▪ **Get employers involved in university careers and information services**

These practices offer benefits to all stakeholders.

Table 12. Benefits of enterprise-university cooperation

1.	**GRADUATES**
▪	**Improved employability**
▪	**Knowledge and understanding, skills and experience that are up-to-date and relevant in the labour market**
▪	**Options for continuous on-the-job training**
2.	**UNIVERSITIES**
▪	**Knowledge transfer and exchange between university and enterprise and business**
▪	**Enhanced status and reputation for the university as regards the labour market and society**
▪	**Provision of a curriculum that is up-to-date and relevant for the labour market**
▪	**Capacity to respond to the changing requirements of the labour market**
3.	**ENTERPRISES**
▪	**Availability of graduates with useful skills and knowledge for the labour market**
▪	**Access to research and advisory services**
▪	**Appreciation of their viewpoint regarding higher education and HEIs**
▪	**Ability to influence higher education study programmes**

There are obviously limitations to all of these proposals (QAA, 2014). Several of the challenges facing higher education institutions are as follows:

- **A lack of resources places limits on courses in terms of their diversity and relevance to the labour market**. The promotion and use of MOOC (massive open online courses) may be a partial solution to this.
- **A limited number of places for work experience and placements in enterprises**. Organisations cannot always offer a sufficient number of good quality internship placements, just as internship agreements are not always managed in exactly the same way by universities. One option would be to use simulations or serious games that give students practical skills, as occurs in the health sciences with objective structured clinical examinations (OSCE).
- **Reluctance of enterprises to provide training in transferable skills**. Many organisations are reluctant to train students in skills and knowledge that can be transferred to other enterprises. One possible solution is sector-wide agreements, whereby all organisations in a sector train students in a basic set of transferable skills and in others that are specific to the enterprise.

8. INTERNATIONAL COMPARISON

A survey on the perceptions of employers in Catalonia concerning the skills of recent graduates helps put into perspective the situation of graduates working in enterprises in Catalonia and enables comparisons to be made at international level. In spite of the fact that not all of the dimensions and aspects are comparable due to methodological reasons, the following table gives a comparison of the main results of the Employers survey conducted by AQU Catalunya with the results of Eurobarometer "Employers' perception of graduate employability" (2010), the UK Commission's Employer Skills Survey (2013) and Emerging "Global Employability Survey and University Ranking" (2013).

The comparison is in reference to the following aspects:

- Recent graduate recruitment
- Factors that are important in recruitment
- Difficulties with recruitment
- Importance of graduate skills
- Employer satisfaction with graduate skills
- University-enterprise cooperation

Table 13. Comparison between the main results of the AQU Catalunya Employers survey and other international surveys

AQU Catalunya: Employers survey	International surveys
RECENT GRADUATE RECRUITMENT	
- 59% of employers had recruited recent graduates	- 68% of enterprises in Europe (59% in Spain) recruited higher education graduates in the past five years and/or were planning to recruit such graduates in the next five years (Eurbarometer) - 25% of enterprises in Europe (37% in Spain) recruited higher education graduates in the past five years but were not planning to recruit more in the next five years (Eurbarometer)

- Large enterprises recruited more graduates	- Large enterprises recruit more graduates (Eurbarometer)
- The more innovative the enterprise, the larger the volume of graduate recruits	- The more innovative the enterprise, the higher the recruitment of university graduates (*UK Commission's Employer Skills Survey*)
- The larger the enterprise, the higher the value given to a Master's degree	- The larger the enterprise, he higher the value given to a Master's degree (Eurbarometer)
IMPORTANT FACTORS IN RECRUITMENT	
- Importance in recruitment: • Having studied abroad (6.6) • Work experience (placements and internships) in enterprises (6.5) • Having worked abroad (6.4) • The university's reputation (5.5)	- 29% of enterprises in Europe (28% in Spain) considered it either very or rather important to have worked abroad (Eurbarometer) - 40% of enterprises in Europe (43% in Spain) considered the university's international reputation to be either very or rather important (Eurbarometer)
DIFFICULTIES WITH RECRUITMENT	
- 60% due to difficulties finding applicants with the right skills (skill-shortage vacancies)	- 47% in Europe (36% in Spain) due to difficulties finding applicants with the right skills (Eurbarometer)
- 20% due to difficulties finding applicants willing to accept the salary	- 43% in Europe (41% in Spain) due to difficulties with offering a competitive starting salary (Eurbarometer)
- 6% due to limited resources for adequate marketing of job vacancies	- 22% in Europe (17% in Spain) due to limited resources for adequate marketing of job vacancies (Eurbarometer)
IMPORTANCE OF GRADUATE SKILLS	
- The skills that employers considered to be the most important were: • Demonstrating responsibility at work • The ability to acquire new knowledge • Team working	- The skills that employers in Europe considered to be the most important (Eurbarometer) were: • Team working • Sector-specific skills • Communication skills
SATISFACTION WITH GRADUATE SKILLS	
- Overall satisfaction global with graduate skills was 7 out of 10 (medium to high)	- 89% of employers in the study (94% in Spain) either strongly agreed or agreed that their

- 94% of employers rated their satisfaction with graduate skills as either 5 or above	graduate recruits had the skills required to work in their company (Eurbarometer)
- The skills with the highest level of employer satisfaction were: • Computer skills • Demonstrating responsibility at work • Team working	- The skills with the highest level of satisfaction were at European level (Eurbarometer) were: • Computer skills • Good literacy (reading and writing) skills • Team working
UNIVERSITY-ENTERPRISE COOPERATION	
- 63% of the enterprises cooperated with universities by offering work placement opportunities to graduates.	- At international level, 57% of enterprises cooperated with universities by offering work placement opportunities to graduates (Emerging)
- Actions to improve graduate employability: • Include compulsory work placement in professional situations in curricula (8.9) • Include practical classes in courses (8.7) • Provide support to graduates after they have obtained their degree (facilitate relations between graduates and enterprises) (8.3) • Make courses more relevant to company requirements (8.2)	- The best things for university-enterprise cooperation according to European enterprises (Eurbarometer) are: • Work placements in enterprises (52%) • Direct recruitment from universities (32%) • Cooperation with university careers and information services (24%) • Discussions with course directors and teaching staff (24%)

9. CONCLUSIONS

The Employers project was designed to complement and provide additional evidence to that provided by the AQU Catalunya surveys (graduate employment outcomes) on the skills of higher education graduates in Catalonia. The aim of this study was to provide information on the views of employers in Catalonia on the skills and education level of recent university graduates in order to gain insight into the actual situation of both employers and graduates.

The results and findings of the survey reveal a series of strengths and weaknesses in recent graduate employability that can be used as a basis for discussion and analysis of the development of policies to improve and enhance programme curricula, as well as the relationship between the universities and the labour market in Catalonia.

The good news from the survey is that the employers in the sample were satisfied with the skills of recent graduates, which they rated from medium to high (7 out of 10). This information can therefore be regarded as being a good sign of the level of education provided by Catalan universities.

There is however always scope for improvement. The most noteworthy findings provided by this survey on graduate employability are:

- Recent graduate recruitment. Organisations recruiting more recent graduates were typically large enterprises (more than 250 employees), where more than 60% of their employees had a university degree and they were innovative organisations.
    - **Enhancement actions** → Facilitate the recruitment of recent graduates by this type of organisation, promote the entrepreneurship of enterprises with added value and promote contacts between graduates and this type of organisation (business forums, Work placement in enterprises, etc.).

- Difficulties with recruitment. A high proportion of enterprises stated that they had difficulties with recruitment due to the shortage of candidates with the right skills and the shortage of graduates in a given field.
    - **Enhancement actions** → Disseminate the university-level Qualifications Framework among employers and establish links between the universities' careers and information services and organisations having more difficulties with recruitment.

- Foreign language skills. The importance of and satisfaction with foreign language skills varied according to the sector of activity and the size of enterprise.

  - **Enhancement action** → Assess improvements in foreign language learning in degree programmes for which this skill is considered to be of greater importance in the labour market.

- Problem solving and practical skills. Problem solving and practical skills are where there was the greatest scope for improvement as far as the employers in the AQU survey are concerned.
  - **Enhancement action** → Introduce compulsory work placement experience in in the curriculum, and introduce courses with a more practical slant and that are aimed at the labour market.

- Workplace training in basic skills. One of the stated reasons for offering workplace training was to make up for and fill gaps in what are considered to be basic skills that the university should have provided students.
  - **Enhancement action** → Include employers in discussing and shaping curricula so that their views regarding the basic skills that students need to have acquired on completion of their university studies can be taken into consideration.

The surveys at international level highlight two characteristics common to all of the successful initiatives and programmes for enhancing graduate employability through university-enterprise cooperation (Santiago et al., 2008a; Mourshed et al., 2012; QAA, 2014):

- Close university-enterprise cooperation. Universities and enterprises work together instead of having separate spheres of activity, and without barriers between the spheres of activity within each organisation.
- University-enterprise cooperation in the entire process. University-enterprise cooperation begins from the moment that students have to choose what degree they are going to take through to their transition to the labour market. Cooperation and collaboration need to cover the entire period spanning the education and entry into the labour market of young graduates, and not just the moment when they make the step from university to the labour market.

Most countries do not have any such system for cooperation at the present time (Santiago et al., 2008a). In order to establish one, a series of changes need to be made to facilitate coordination of the information provided by students, universities, enterprises and labour organisations. Broadly speaking, international experience in various different countries has shown that a series of joint actions helps to improve the relation between higher education and the labour market (Santiago et al., 2008a):

- Coordination of education and labour policies. The transition from university to the labour market implies the involvement of both education and the workplace. These two spheres are often either cut off from each other at policy level or do not cooperate as much as they could.

- Guidance for students, universities and enterprises. Over the entire period spanning the education and entry into the labour market of young graduates, many decisions (regarding, for example, which degree course, what kind of job, how to best design a curriculum, or in the selection of employees) are made on the basis of a lack of complete understanding and/or information by the different actors. Evidence-based guidance can greatly improve and enhance the end result of decisions and actions taken.
- Enhance the relevance of the Qualifications Framework. This can be of help to both students and enterprises in dispelling doubts and having realistic expectations about what can be expected from a given study programme or type of training. Disseminating this tool and promoting its use can also facilitate decision-making.
- Lifelong learning. The learning process does not come to an end when students graduate, and rapid changes in market requirements increasingly call for continuous education and further training. The university can take part in this by making timetables more flexible and offering courses and training that are more employability-based and cater to different student profiles, aside from the young full-time student. Cooperation with enterprises and the fact that graduates are familiar with the university can facilitate the development and delivery of on-campus employability training courses. Organisations will, in turn, also need to continue to train their employees in skills that are specific to the enterprise (sector-specific skills).
- Response to labour market needs. Up-to-date information according to the different sectors is important for keeping up with the needs of the labour market. A rapid response to these needs is possible through the use of a coordination system whereby coordinators and managers of relevant degree courses can connect with the information from different branches of economic activity.
- Information on good practices. The gathering and dissemination of good practices on all levels (local area, in Catalonia, in Spain and at international level) would help to provide ideas and keep up to date with the latest trends and developments so good practices can be adapted and introduced.

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ANNEX 1. TECHNICAL SPECIFICATIONS

Field work carried out by:	**Institut DYM**
Population	**Target group:** employers (enterprises and self-employed workers) of recent university graduates with establishments located in Catalonia (head office or not) in 2014. Enterprises in the following branches of activity were not included are: public administration, education, culture, research, and health and social welfare. **Population of contactable enterprises: 16,757**
Methodology	On-line survey in the initial stage. Telephone survey in the second stage. Computer-assisted telephone interviewing (CATI).
Sample	**Sample type:** quotas according to branch of activity (AQU Catalunya classification). **Achieved sample in the on-line survey: 534** **Achieved sample in the telephone survey: 791** **Total sample: 1,325**
Period	**On-line survey:** 27 October to 11 November 2014. **Telephone survey:** pilot 24 and 25 November 2014; field work from 27 November to 22 December 2014.
Telephone schedule	From 9 a.m. to 7 p.m., although usually from 9 a.m. to 3 p.m. No calls were made during the weekend, during which time the majority of enterprises were closed.
Average call time	The average call time was 15 minutes 45 seconds.
Number of interviewers	12

ANNEX 2. EMPLOYERS SURVEY QUESTIONNAIRE

Perceptions on the skills of recent graduates

According to the European Commission, one of the current challenges facing modernisation of higher education is to explore how higher education can increase its relevance to labour market needs. The aim of this questionnaire, which is coordinated by AQU Catalunya and funded by Obra Social "la Caixa", is to gain insight into employers' perceptions on the match between their requirements as employers and the education and training of recent graduates (i.e. the education-jobs skills match) in Catalonia. This information will serve to identify the strengths and weaknesses of recent graduate recruits and be useful for maintaining the university community informed. You are therefore being asked to participate and answer the questionnaire below, which should take between 10 to 15 minutes to complete.

Many thanks for your cooperation.

NB: For the purposes of the survey, recent university graduates are graduates who obtained a university degree during the two years prior to recruitment and therefore have very little or no professional experience at all.

DATABASE IDENTIFICATION DETAILS

Company name
Corporate tax ID number
Address of the establishment
Main branch of economic activity

SECTION 1. COMPANY IDENTIFICATION DETAILS

1. How many people work in this establishment? (Include both full-time and part-time staff, but excluding subcontracted and self-employed staff)

(1) The enterprise has 0 employees — Go on to sections 6 and 7 (online version) / Go on to question 3 (telephone version)

(2) Between 1 and 9 (3) Between 10 and 50 (4) Between 51 and 100

(5) Between 101 and 200 (6) Between 201 and 250 (7) Between 251 and 500

(8) More than 500

2. Of the people working in the establishment, what is the approximate percentage of employees (both full-time and part-time) who have a university degree?

(1) Zero — Go on to sections 6 and 7 (online version)
Go on to question 3 (telephone version)

(2) 1-10% (3) 11-20% (4) 21-30% (5) 31-40% (6) 41-50%

(7) 51-60% (8) 61-70% (9) 71-80% (10) 81-90% (11) 91-100%

3. Ownership of the enterprise:

(1) Public (2) Private (3) Other

4. In what year did activities start in this establishment? (4 digits)

5. This establishment:

(1) Is the only establishment the enterprise has — Go on to question 6

(2) Is one of the enterprise's establishments — Go on to question 5.1

5.1. Is this establishment the enterprise's main office/headquarters?

(1) Yes — Go on to question 6

(2) No — Go on to question 5.2

5.2. Where is the main office/headquarters?

(1) In Catalonia — Go on to question 6

(2) Outside of Catalonia, but in Spain — Go on to question 6

(3) Outside of Spain. Specify the country (code number) — Go on to question 6

6. What is your establishment's main activity (CCAE code[3]-2009)?

(1) Agriculture, forestry and fishing

(2) Mining and quarrying

(3) Manufacturing industries

(3.1) Chemical and/or pharmaceutical industries

(3.2) Food industries

(3.3) All other industries

(4) Electricity, gas, steam and air conditioning supply

(5) Water supply; sewerage, waste management and remediation activities

(6) Construction and building

[3] Catalan Classification of Economic Activities

(7) Wholesale and retail trade; repair of motor vehicles and motorcycles

(8) Transportation and storage

(9) Accommodation and food service activities

(10) Information and communications

(10.1) Communication technologies (telecommunications, information technology services, information services)

(10.2) Mass communication media (publishing, motion picture, video and television programme activities; sound recording and music publishing activities, radio and television programming and broadcasting activities)

(11) Financial and insurance activities

(12) Real estate activities

(13) Professional, scientific and technical activities

(13.1) Research and development

(13.2) Veterinary activities

(13.3) Business services (legal, accounting, activities of head offices; management consultancy activities, architecture, engineering, technical testing and analysis activities, advertising and market research, other professional, scientific and technical activities)

(14) Administrative and support service activities

(15) Public administration and defence; compulsory social security

(16) Education

(17) Human health and social work activities

(18) Arts, entertainment and recreation

(18.1) Creative, arts and entertainment activities; Libraries, archives, museums and other cultural activities

(18.2) Gambling and betting activities; Sports activities and amusement and recreation activities

(19) Other services

(19.1) Activities of membership organisations

(19.2) Repair of computers and personal and household goods; Other personal service activities

(20) Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use

(21) Activities of extraterritorial organisations and bodies

7. Approximately, what is the percentage distribution of either your sales or clients between the following different markets? (The percentage distribution total should come to 100.)

(1) Local (urban centre or local area) .....%

(2) Catalonia .....%

(3) Spain .....%

(4) International (outside of Spain) .....% If the answer is 0, go on to question 7.1

7.1. If your answer for international sales and/or services in the previous question was 0%, answer the following question. Is there any kind of international relationship involved in the activities of your enterprise?

(1) Yes If affirmative, specify the international activity or relationship (open-ended)

(2) No

SECTION 2. RECRUITMENT

This section includes questions concerning the recruitment of **recent university graduates**, i.e. graduates who obtained a university degree during the two years prior to recruitment and therefore have very little or no professional experience at all. Assess **only** recent university graduates who were recruited for tasks matched with their level of education (i.e. graduate-level skills).

8. In the last five years, did you recruit any recent graduates?

(1) Yes	Go on to question 9
(2) No	If in question 1 and 2 P(1) > 1 and P(2) > 1, go on to sections 6, 4 and 5 (only 23 and 24)
	If in question 1 P(1) = 1, go on to section 6 and the end of the survey
	If in question 2 P(2) = 1, go on to section 6 and the end of the survey

9. How many approximately (in the last five years)?

10. What subjects did your graduate recruits obtain degrees in (in the last five years)? You can choose more than one option.

(1) Humanities, History, Arts	(2) Foreign languages	(3) Economics, Business Management and Administration, and Business Sciences
(4) Law, Sociology, Labour Studies, Social Welfare and Political Sciences	(5) Communication, Documentation	(6) Psychology, Pedagogy and Psychopedagogy
(7) Teaching and Social Education	(8) Tourism	(9) Experimental Sciences: Chemistry, Environmental Science, etc.
(10) Nursing	(11) Medicine, Dentistry	(12) Pharmacy, Food Science and Technology
(13) Architecture and Civil Engineering	(14) Production Engineering (Industrial, Chemical, etc.)	(15) ICT (Computer Sciences, Telecommunications, Electronics)
(16) Agricultural Engineering		

11. State if the following factors were important in the selection of recent university graduates:

(1) A specific degree	Yes	No	For certain jobs	N/A
(2) A Master's degree	Yes	No	For certain jobs	N/A
(3) A doctoral degree/PhD	Yes	No	For certain jobs	N/A

12. Rate from 1 to 10 the level of importance of the following factors in the recruitment of recent university graduates (0 indicates not at all important and 10 very important).

(1) Possession of a degree from a foreign university	0	1	2	3	4	5	6	7	8	9	10	N/A
(2) Having studied or worked abroad	0	1	2	3	4	5	6	7	8	9	10	N/A
(3) The reputation of the university where they studied	0	1	2	3	4	5	6	7	8	9	10	N/A
(4) Work placement during studies	0	1	2	3	4	5	6	7	8	9	10	N/A

13. Have you had any difficulties to recruit the right people for any given job?

(1) Yes Go on to question 13.1

(2) No Go on to question 14

13.1. If your answer to the previous question was "Yes", state the main reasons. If necessary, choose more than one option.

(1) Shortage of university graduates in a given field. Specify (open-ended)

(2) Shortage of candidates with the right skills for the job. Specify (open-ended)

(3) Shortage of candidates willing to be geographically mobile

(4) Shortage of candidates willing to adapt to the work schedule

(5) Shortage of candidates willing to accept to the type of contract

(6) Shortage of candidates willing to accept the salary

(7) Shortage of candidates willing to relocate

(8) Limited resources to allow adequate marketing of job vacancies. Specify (open-ended)

(9) Other reasons. Specify (open-ended)

14. If you wish to make any comment or remark regarding your answers to the questions in this section, please do so in the space provided below.

SECTION 3. SKILLS

In this section you are asked to rate **the importance of** and your **level of satisfaction** with the education and skills of **graduate employees** in your enterprise that have graduate-level job responsibilities.

15. Rate from 1 to 10 the **level of importance** of the following skills in their professional work (1 indicates not at all important and 10 very important).

Practical and theoretical skills												
(1) Theoretical skills	0	1	2	3	4	5	6	7	8	9	10	N/A
(2) Practical skills	0	1	2	3	4	5	6	7	8	9	10	N/A
Cognitive skills												
(3) Analysis and problem solving	0	1	2	3	4	5	6	7	8	9	10	N/A
(4) Numeracy skills	0	1	2	3	4	5	6	7	8	9	10	N/A
(5) Decision making skills	0	1	2	3	4	5	6	7	8	9	10	N/A
(6) The ability to come up with new ideas and solutions	0	1	2	3	4	5	6	7	8	9	10	N/A
Personal management skills												
(7) The ability to acquire new knowledge	0	1	2	3	4	5	6	7	8	9	10	N/A
(8) Ability to work independently (determine one's own tasks, methods and time schedule)	0	1	2	3	4	5	6	7	8	9	10	N/A
Instrumental skills												
(9) Communication skills: oral and written expression, skills in writing and presenting reports, etc.	0	1	2	3	4	5	6	7	8	9	10	N/A
(10) Languages	0	1	2	3	4	5	6	7	8	9	10	N/A
(11) Basic computer literacy/using IT	0	1	2	3	4	5	6	7	8	9	10	N/A
Interpersonal skills												
(12) Team working	0	1	2	3	4	5	6	7	8	9	10	N/A
(13) Leadership	0	1	2	3	4	5	6	7	8	9	10	N/A
(14) Negotiation skills	0	1	2	3	4	5	6	7	8	9	10	N/A
Professional attitude and ethics												
(15) Demonstrating responsibility at work	0	1	2	3	4	5	6	7	8	9	10	N/A

16. Rate from 1 to 10 your **level of satisfaction** with the following skills of recent university graduates (1 indicates unimportant and 10 very important.

Theoretical and practical skills												
(1) Theoretical skills	0	1	2	3	4	5	6	7	8	9	10	N/A
(2) Practical skills	0	1	2	3	4	5	6	7	8	9	10	N/A
Cognitive skills												
(3) Analysis and problem solving	0	1	2	3	4	5	6	7	8	9	10	N/A
(4) Numeracy skills	0	1	2	3	4	5	6	7	8	9	10	N/A
(5) Decision making skills	0	1	2	3	4	5	6	7	8	9	10	N/A
(6) The ability to come up with new ideas and solutions	0	1	2	3	4	5	6	7	8	9	10	N/A
Personal management skills												
(7) Being able to adapt to act in new situations	0	1	2	3	4	5	6	7	8	9	10	N/A
(8) Ability to work independently (determine one's own tasks, methods and time schedule)	0	1	2	3	4	5	6	7	8	9	10	N/A
Instrumental skills												
(9) Communication skills: oral and written expression, skills in writing and presenting reports, etc.	0	1	2	3	4	5	6	7	8	9	10	N/A
(10) Languages	0	1	2	3	4	5	6	7	8	9	10	N/A
(11) Basic computer literacy/using IT	0	1	2	3	4	5	6	7	8	9	10	N/A
Interpersonal skills												
(12) Team working	0	1	2	3	4	5	6	7	8	9	10	N/A
(13) Leadership	0	1	2	3	4	5	6	7	8	9	10	N/A
(14) Negotiation skills	0	1	2	3	4	5	6	7	8	9	10	N/A
Professional attitude and ethics												
(15) Demonstrating responsibility at work	0	1	2	3	4	5	6	7	8	9	10	N/A

17. Rate from 1 to 10 your **overall level of satisfaction** with the skills of recent graduates (1 indicates very dissatisfied and 10 highly satisfied).

0 1 2 3 4 5 6 7 8 9 10 N/A

18. If you wish to make any comment or remark regarding your answers to the questions in this section, please do so in the space provided below.

SECTION 4. COOPERATION WITH UNIVERSITIES

This section includes several questions on cooperation between your enterprise and universities.

19. Assess the frequency with which you participate in activities involving **cooperation with universities**.

(1)	Cooperation with universities in discussing and designing curricula	Never	Rarely	Sometimes	Often	N/A
(2)	Recent graduate recruitment through university careers and information services	Never	Rarely	Sometimes	Often	N/A
(3)	Participation in business forums and conferences organised by a university	Never	Rarely	Sometimes	Often	N/A
(4)	Offer of work placements to university students	Never	Rarely	Sometimes	Often	N/A
(5)	Research cooperation agreements and/or use of a university's technical services	Never	Rarely	Sometimes	Often	N/A

20. Rate from 1 to 10 the importance of the following actions by universities to **enhance the employability** of your graduate recruits (1 indicates unimportant and 10 very important).

(1)	Run courses that are more relevant to the needs of enterprises	0	1	2	3	4	5	6	7	8	9	10	N/A
(2)	Include practical classes in courses	0	1	2	3	4	5	6	7	8	9	10	N/A
(3)	Include compulsory work placement experience as an integral part of the curriculum	0	1	2	3	4	5	6	7	8	9	10	N/A
(4)	Provide support to graduates after they have obtained their degree (facilitate relations between graduates and enterprises)	0	1	2	3	4	5	6	7	8	9	10	N/A
(5)	Others. Specify (open-ended)												

21. What kind of activity would you be willing/like to cooperate in with universities? Options from the above list, as well as different ones, can be chosen.

SECTION 5. BUSINESS STRATEGY

This section includes questions on different production characteristics of the establishment, together with human resource management.

22. Does your enterprise train recent graduate employees?

(1) Yes — Go on to question 22.1

(2) No — Go on to question 23

22.1. If you answered "Yes" to the above question, give the reasons why you give them training. Where appropriate, choose more than one option.

(1) Improve sector-specific training

(2) Correct the lack of basic knowledge (make up for and fill gaps in what are considered to be basic skills that the university should provide students)

(3) Improve soft skills

(4) Improve foreign language skills

(5) Assist employees in adapting to the characteristics of the enterprise and the corporate culture

(6) Others. Specify (open-ended)

23. With regard to the productive activity of your enterprise, have any new developments been introduced over the last three years?

(1)	Products and/or services that are totally new to the enterprise and new to the market	Yes	No	N/A
(2)	Products and/or services that are totally new to the enterprise but that already existed on the market	Yes	No	N/A
(3)	Important changes in process technology: new equipment and/or software	Yes	No	N/A
(4)	Important changes in process technology: new forms of management (just-in-time production, quality and/or knowledge management)	Yes	No	N/A
(5)	New ways of engaging with other enterprises (production outsourcing, subcontracting and/or cooperation agreements)	Yes	No	N/A

24. With regard to human resource management in the establishment, are the following practices applied?

(1)	Formal systems for the sharing of information (management-employees)	Yes	No	N/A
(2)	Different forms of team working, such as semi-autonomous work groups, quality circles and problem-solving teams	Yes	No	N/A
(3)	Flexible and performance-related pay, benefit and bonus systems	Yes	No	N/A
(4)	System of decentralised decision-making where employees are much freer to act	Yes	No	N/A

SECTION 6: ENTERPRISES THAT DID NOT RECRUIT RECENT UNIVERSITY GRADUATES

9. What reasons are there for you not recruiting recent university graduates during the last five years? Where appropriate, choose more than one option.

(1) Lack of vacancies
(2) Graduates were recruited, but with previous work experience
(3) The enterprise's activities do not call for the recruitment of employees with this level of qualification
(4) Shortage of graduates in a given field
(5) Shortage of candidates with the right skills for the job
(6) Shortage of candidates willing to be geographically mobile
(7) Shortage of candidates willing to adapt to the work schedule
(8) Shortage of candidates willing to accept to the type of contract
(9) Shortage of candidates willing to accept the salary
(10) Shortage of candidates willing to relocate
(11) There were no applicants
(12) Others. Specify (open-ended)

SECTION 7: DETAILS OF THE INFORMANT (PERSON COMPLETING THE SURVEY)

What is your position in the enterprise?

(1) Director or head of HR (Human Resources) / head of an HR department
(2) Director general / director / manager
(3) Other. Specify (open-ended)

If AQU Catalunya happens to need more information on this matter, would you be willing to cooperate?

(1) Yes (2) No

Please,

Provide your name and surname .....

Provide your e.mail address .....

Many thanks for completing the survey questionnaire.

ANNEX 3. EDITORIAL TEAM

Editors

Queralt Capsada Munsech	Technical officer, Quality Assurance/AQU
Anna Prades Nebot	Project Manager, Quality Assurance/AQU

Contributors

Maria Giné Soca	Secretary to AQU Catalunya and the AQU Board
Carme Edo Ros	Project Manager, Quality Assurance/AQU

Scientific Committee

Jaume Garcia Villar	Chair, Scientific Committee (UPF)
Pilar Figuera Gazo	Scientific Committee member (UB)
Santiago Gilbert Fortet	Scientific Committee member (CEMEX, employers' representative)
Ferran Mañé Vernet	Scientific Committee member (URV)
Joan Miquel Verd Pericàs	Scientific Committee member (UAB)
Sebastián Rodríguez Espinar	Scientific Committee member (UB)
Sandra Nieto Viramontes	Secretary, Scientific Committee (AQU Catalunya)

ANNEX 4. PRODUCING THE LISTING OF ENTERPRISES

In order to obtain the views and perspectives of employers in Catalonia on recent graduate skills, AQU Catalunya drew on two sources to produce the listing of enterprises:

1. The **careers and information services (careers, employment and placement services) of the universities in Catalonia**. The universities provided AQU Catalunya with the register of enterprises that they have been in contact with for the purposes of either curricular practices, extra-curricular practice or activities and/or job recruitment. These enterprises therefore all had some kind of relationship with Catalan universities.
2. The **ACICSA Yearbook for 2014**. This database provides a register of 15,000 enterprises in Catalonia, including more than 12,000 enterprises with an annual turnover of more than 1.5 million euros, associations, professional associations and bodies, etc., most of which are medium and large-sized enterprises with the capacity to recruit recent graduates.

Using these two sources, a listing of enterprises was produced, with repeat entries being removed and contact information updated where possible. The final population obtained was 16,756 entries of contactable enterprises. Although around 60% of the enterprises in the population are from the ACICSA Yearbook for 2014, most of the responses in the sample (66%) were from contacts provided by the universities.

Table 14. Source of the population and sample records

Source	Population	Population percentage	Sample	Sample percentage
Universities	6,719	40.09%	879	66.26%
ACICSA 2014	10,038	59.90%	446	33.66%
Total	16,757	100.00%	1,325	100.00%

This initial effort put in to producing the listing of enterprises was a necessary step for carrying out the project, although it served as the groundwork and has turned into a key element for carrying out further surveys in the future on the trends and changing opinions and views of employers regarding university graduates in Catalonia.

ANNEX 5. AQU CATALUNYA CLASSIFICATION OF BRANCHES OF ECONOMIC ACTIVITY

The branches of activity proposed by AQU Catalunya in this survey are based on the IDESCAT (Catalan Institute of Statistics) classification of branches of economic activity (in turn based on the CNAE-2009 classification) and the percentage of graduate recruits from HEIs in Catalonia according to degree subject.

The criterion for classifying degree subjects according to different branches of economic activity was based on the branch of activity with the highest proportion of employees according to their degree subject. If more than 15% of employees were grouped under another branch of economic activity, this was also included. Two branches of economic activity can therefore appear under one subject.

Table 15. Branches of activity (AQU Catalunya classification) according to the percentage of graduates, degree subject and branch of activity

AQU classification: branch of economic activity	*N* (graduates)	Percentage	Subjects included in each branch	IDESCAT (CNAE-2009)	Description
1. Chemical and pharmaceutical industries	364	3.71%	Chemistry (25%)	20	Chemical industries
				21	Pharmaceutical and cosmetics industries
2. Food industries	286	2.92%	Agricultural Engineering (17.6%) Pharmacy, Food Science and Technology (21%)	10-12	Food, beverages and tobacco
3. All other industries	1,069	10.90%	Agricultural Engineering (11.5%) Advanced Production Technologies (16.6%) Advanced Production Technologies (26%)	1-2	Agriculture, livestock, forestry, hunting
				3	Fisheries and aquaculture in inland and marine waters
				5-7	Solid fuels, oil, gas and radioactive minerals
				8-9	Mining and mineral processing
				35-39	Electricity, gas and water. Steam generator manufacturing;

					collection, filtering and distribution of water
				24-28, 33	Metallurgy, electrical and precision materials
				29-30	Transportation materials. Manufacture of motor vehicles, bicycles, naval construction and building, railway equipment
				13-15	Textile, leather and wearing apparel industries
				16, 31	Manufacture of wood and of products of wood and cork, including wood furniture;
				17-18	Paper and paper products. Graphic arts and publishing. Manufacture of pulp, cardboard
				22-23, 32, 38-39	Rubber and plastics. Other manufacturing industries. Recycling. Manufacture of glass and synthetic fibres
4. Construction and building	702	7.16%	Architecture (75%) Civil Engineering (50.5%) Technical and Civil Engineering (67.3%)	41-43	Construction and building
5. Consumer services	1,451	14.80%	Tourism (44.5%) Aviation (57.4%) Nautical Engineering (40%) Pharmacy, Food Science and Technology (23.9%) Sports (28.6%)	45-47	Trade and repairs
				55-56	Accommodation and food service activities
				49-53	Transportation and related activities
				92-93, 95-99	Other community services
6. Communications Technologies	723	7.38%	Information and Communications (37%) Information and Communications Technologies (42%)	61-63	Communications Technologies
7. Mass communication media	307	3.13%	Communication (36%)	58-60	Mass communication media (radio, television, cinema, video, publishing activities, etc.)
8. Financial institutions and real estate entities	783	7.99%	Economics; Business Management and Administration (29.6%), Business Sciences (31%)	64-68	Financial institutions, insurance companies and real estate entities
9. Business services	1,596	16.28%	Fine Arts (32%) Law (37.2%) Economics; Business Management and Administration (22.5%), Business Sciences (17%) Civil Engineering (21%)	69-71, 73-74, 77-82	Business services. Rental and leasing activities

			Labour Studies (21%)		

Colabora

Obra Social "la Caixa"