

Comparative Report

Skills Needs Related to e-commerce in Spain, Portugal and Austria

Elaborated by CCP

Based on the national reports of

**Austria
Portugal
Spain**

Lisbon, January 2016

Project 554486-EPP-1-2014-1-ES-EPPK2-SSA

This project has been funded with support from the European Commission



Index

	Pág.
I Executive Summary	4
II Methodology	5
III State of the art of the commerce sector on e-commerce, opportunities, barriers and challenges: statistics	7
1- General statistics of the sector (separated by wholesale and retail and given in total and %)	7
a. Number of enterprises	7
b. Number of enterprises per size	7
c. Turnover	8
2- Employment situation of the sector (separated by wholesale and retail and given in total and %)	9
a. Number of persons employed	9
b. Number of persons employed per size of enterprise	9
c. Number of persons employed and gender	10
d. Number of persons employed and age	11
e. Number of persons employed and qualification level	11
f. Evolution of the number of persons employed in the sector	13
3- Use of ICT by enterprises (%)	13
a. Enterprises with internet connection per size of enterprise	13
b. Use of e-commerce (to make and/or receive orders) per size of enterprise	14
c. Enterprises using the Internet to interact with public agencies, and others entities per size of enterprise	14
d. Enterprises using application software (CRM- Customer relationship manager) per size of enterprise	15
e. Enterprises using application software (ERM- Enterprise resource planning) per size of enterprise	16



ALL-ECOM

f.	Enterprises with a presence on the Internet per size of enterprise	17
g.	Enterprises with human resources with ICT skills per size of enterprise	17
IV	Trends in the sector	18
a.	Employment opportunities in the sector	18
b.	Development of employment by qualification levels	19
c.	Variation in the employment by qualification levels	20
d.	Jobs opportunities by qualification levels	20
e.	Employment trends and anticipated vacancies	21
f.	Identification of change drivers on the jobs	23
V	How technologies affect jobs in commerce	25
a.	Kind of impacts	26
b.	What new jobs	28
c.	What new skills	30
VI	General Conclusions	34
VII	Recommendations	43
VIII	Bibliographic References	45
	ANNEXES	47
	ANNEX I – Results from qualitative research	48
	Skills, competences and training needs related to the use of ICT	
	ANNEX II - Results from quantitative research	53
	1. Results from Employers questionnaire	53
	2. Results from Employees questionnaire	66
	ANNEX III – Skills Gap Questionnaires	76
	1. Employers questionnaire	76
	2. Employees questionnaire	85



I - Executive Summary

This document is part of the Global Report of work package 2, included in All-Ecom project. The All-Ecom is a transnational project involving three European countries (Portugal, Spain and Austria), which seeks to report the challenges resulting from the imbalance between existing and required qualifications in the commerce sector, by improving human resources skills, namely, in e-commerce, through the integration of new technologies in the strategy of retail and wholesale companies. Furthermore this project intends to promote the harmonization of qualifications and referential skills, at national and european level, in e-commerce.

Each country is represented by a cluster of three-type of organizations: a representative organization of the trade sector, a training provider from the trade sector and a regulatory entity with functions in the framework of the national education and training systems. In Portugal case these organizations are, respectively, the Confederation of Commerce and Services of Portugal (CCP), the Vocational Training Centre for the Commerce and Services (CECOA) and the National Agency for Qualification and Vocational Education and Training, IP (ANQEP). Regarding Spain, the organizations involved are: the Federation of Independent Workers of Commerce (FETICO), the IBECOM and the Catalan Occupation Service (SOC). Concerning the Austrian participation, the organizations involved are: the Austrian Trade Union Federation / Union of Salaried Private Sector Employees, Graphical Workers and Journalists (GPA-DJP); the Economic Chamber Styria - WKO (WK-Stmk) and NOWA Training Counselling Project Management (NOWA).

The imbalance between qualification needs in digital area and those that are available in the market is causing constraints in labor market, which can rise important issues related with the necessity of adaptation of training systems to this new reality, faced by the sector.

It is widely accepted that there is a need to review existing qualifications in e-commerce, in order to include the use of new technologies, as a "way" to sell products/services and enhance employability in the sector, which has a strong potential of growth and it is increasingly globalized.

In this context, it was listed a range of activities, based on the diagnosis of each country reality, related to the incorporation of ICT in the daily activities of companies belonging to the commerce sector, particularly, the importance attributed to e-commerce. This work of diagnosis has led to the identification of training and qualification needs in this area, with the purpose of drawing a map that included the common qualifications for the three countries involved.

The work package 2 (WP2), where this document is integrated, counted with CCP as a leader and its main objectives are: analyzing the state of the art of the trade sector on e-commerce; opportunities, barriers and challenges regarding this sector; identification of qualifications, skills and training needs among a target groups, related with the use of ICT, namely e-skills, through a participatory process, using qualitative and quantitative research techniques.

The Global Report of WP2, incorporates the results from the work lead by each country and is divided into four main parts:

1. Analysis of the current reality of the sector using statistical data from enterprises, employment in the sector and use of ICT, particularly, of e-commerce in companies;
2. Identification of the main trends of the commerce sector arising from the necessary incorporation of ICT in their activity;
3. Development of impacts caused by the incorporation of ICT in companies of the sector;
4. Information from all the participants, which was obtained from the respective questionnaires, focus-group and interviews.

II - Methodology

The research followed the methodological guidelines provided by the WP2 leader (CCP). For instance, synergies among WP2 and WP3 were exploited and a team work between the three national partners, was developed answering to the objectives and targets of the two main tasks, first to develop a National Report, and then to complete the global report.

WP2 assignments:

- **Research Methodology**

CCP, together with the remaining Portuguese partners, developed a research methodology, which served as a guideline for the Austrian and Spain partners integrated in this project.

- **Desk research**

The documentary research was focused on the “state of art” of the trade sector regarding e-commerce, and took into account the opportunities, barriers and challenges faced by the sector. The results of this research can be found on chapters III to VI of this report.

- **Qualitative Research**

Qualitative research was based on desk research and quantitative inquiry. The information was gathered through focus groups, interviews and consultation by email, directed to stakeholders, employers and workers of the trade sector. Each discussion group counted with a range of 6-9 persons.

- **Quantitative Research**

The quantitative research and desk research were made at the same time. The quantitative research was focused on the skill gap announced by the target group (employers and employees in the trade sector) related to e-commerce. To do so, it was used questionnaires (which included questions to find out the skill needs of the sector) and a selected sample (from the target group mentioned) aimed to fill this questionnaires. The questionnaires were distributed per each country, to a group of 100 employers and workers.

- **National Reports**

The partners of each country prepared a national report, which included the results obtained through their research, carried out through the guidelines given by the leader of the WP2 (CCP).

- **Global Report for a common competences needs**

Subsequently, the national reports were analyzed by the WP2 leader, who elaborated the present global report, which included the findings obtained, as well as the conclusions on deficits of common skills related to e-commerce. This report is a valuable contribution to the definition of new learning outcomes, which should be included in the National Qualifications Frameworks of each country, as well as in the contents of their training offer.

The **Global Report** contains the results obtained from the Desk Research prepared by each country involved in the All-Ecom project, including the presentation of statistical data in the sector, the main trends and the impacts of technologies on jobs in the trade sector. This research constitutes the main body of this report, followed by the presentation of General Conclusions and Recommendations, which are relevant to the development of competences and skills needs in e-commerce and in trade sector.

The **results from qualitative and quantitative research**, also included in this report, were achieved by conducting focus groups, interviews and surveys to a target public identified on this project, because of its interest for the study of the sector, with regard to e-commerce. This information can be found in Annexes I and II. **Skills Gap Questionnaires**, which constituted the groundwork for obtaining the quantitative results, are set out in Annex III of this report.

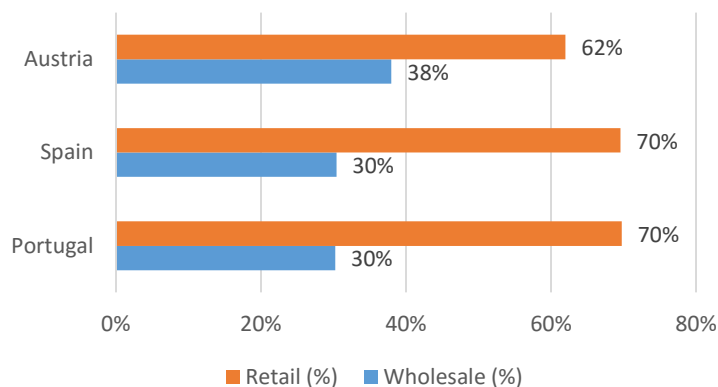
III - State of the art of the commerce sector on e-commerce, opportunities, barriers and challenges: statistics

1 - General statistics of the sector (separated by wholesale and retail and given in total and %)

As we can see in the chart below, and regarding to the trade sector in Portugal, Spain and Austria, 70% of Portuguese and Spanish companies belonged to the retail subsector, of which 30% to the wholesale subsector, 62% of Austrian companies pertained to the subsector of retail and 38% to the wholesale subsector. We can also conclude that we have a similar situation in the three countries referred.

a. Number of enterprises

Chart 1 – Number of Enterprises and sector of activity (%)

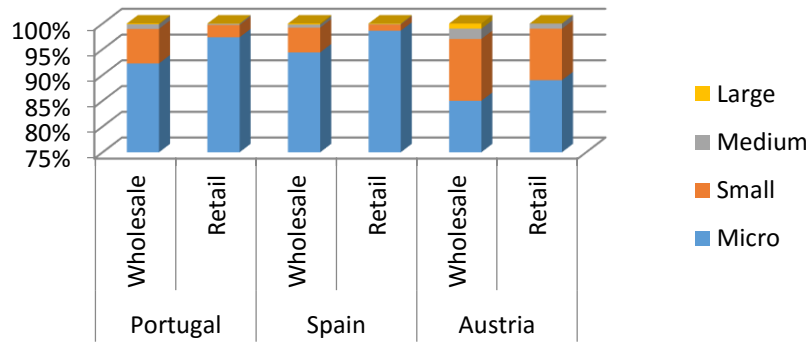


Source: National Statistics Institutes, 2013

b. Number of enterprises per size

The overwhelming majority of enterprises in the commerce sector, in Portugal, Spain and Austria, are micro and small, representing these businesses, 92% of total wholesale companies and 97% of total retail firms (Chart 2).

Chart 2 – Enterprises per Size and Sector



Source: National Statistics Institutes, 2013

c. Turnover

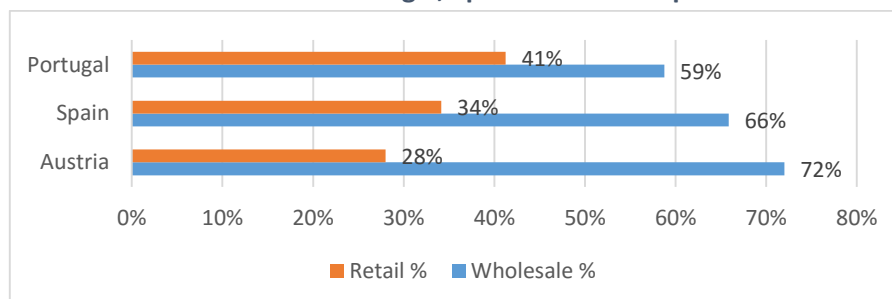
Concerning the information obtained by the three countries referred, the entire turnover of the commerce sector, exceeded EUR 910 billion (Table 1) and the wholesale sub-sector was responsible for 66% of this amount.

Table 1 – Turnover by country

	value €		
Sector	Portugal	Austria	Spain
Wholesale total	61 400 000 000	148 000 000 000	393 931 000 000
Retail total	43 110 000 000	60 000 000 000	204 260 000 000
Total	104 510 000 000	208 000 000 000	598 191 000 000

Source: National Statistics Institutes, 2013

Chart 3 – Turnover in Portugal, Spain and Austria per Sub-sector



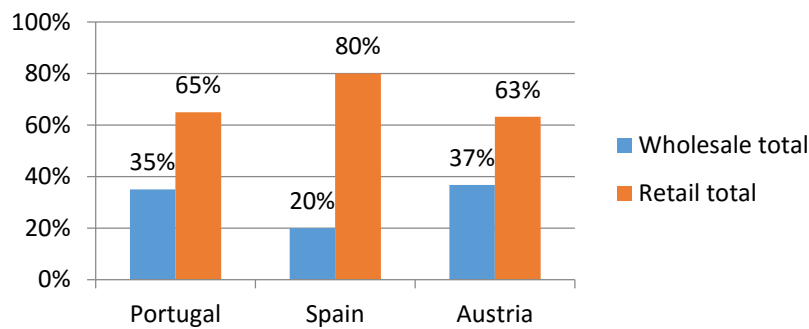
Source: National Statistics Institutes, 2013

2 - Employment situation of the sector (separated by wholesale and retail and given in total and %)

a. Number of persons employed

Portugal and Austria have a very close situation on this tool, with about 35% of persons employed in the wholesale sector and about 65% persons employed in the retail subsector (chart 4). Spain has 80% of persons employed in the retail sector and 20% in wholesale.

Chart 4 – Number of persons employed and sector

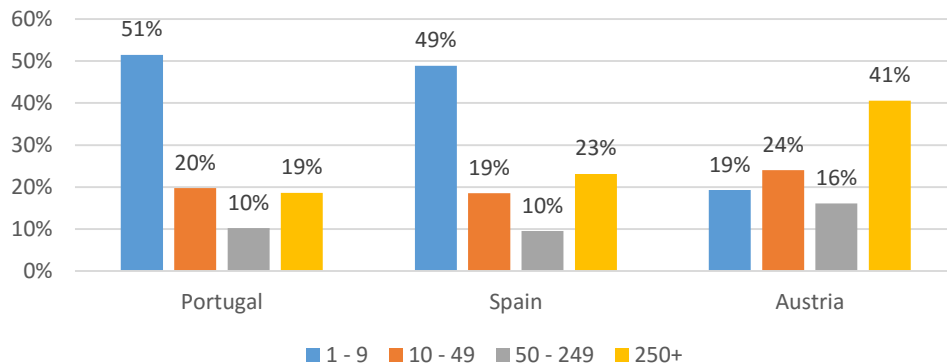


Source: National Statistics Institutes, 2013

b. Number of persons employed per size of enterprise

As we can see in the following chart (Chart 5), Portugal and Spain have a very close situation, where the micro and small companies of the commerce sector are responsible for the most part of the personnel employed in this sector. However, in Austria we observe a significant proportion of employees (41%) in large companies.

Chart 5 – Persons employed per size of enterprise

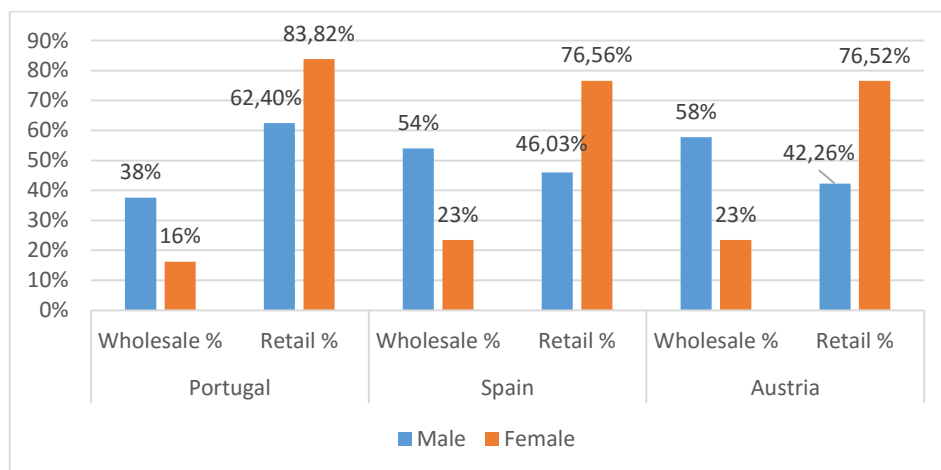


Source: National Statistics Institutes, 2013

c. Number of persons employed and gender

With regard to gender, we can observe a similar situation between three countries, where most persons employed in the wholesale sub-sector are men (38% against 16% female in Portugal; 54%/23% in Spain and 58%/23% in Austria), in contrast to the retail sub-sector, where most part of the people employed are women, corresponding to a 83,82% in Portugal, 76,56% in Spain and 76,52% in Austria (Charts 6).

Chart 6 – Persons Employed and gender



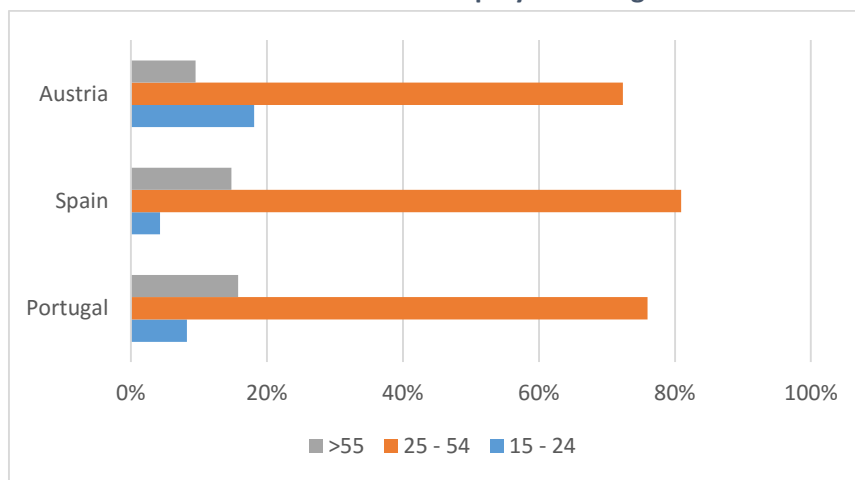
Source: National Statistics Institutes, 2013

d. Number of persons employed and age

Concerning age, and as we can see in the chart below, most employees in the subsectors of wholesale and retail in three countries observed have between 25 and 54 years old.

With regard to age structure the two sectors do not differ. The average age is between 35 and 40 years.

Chart 7 – Persons employed and age



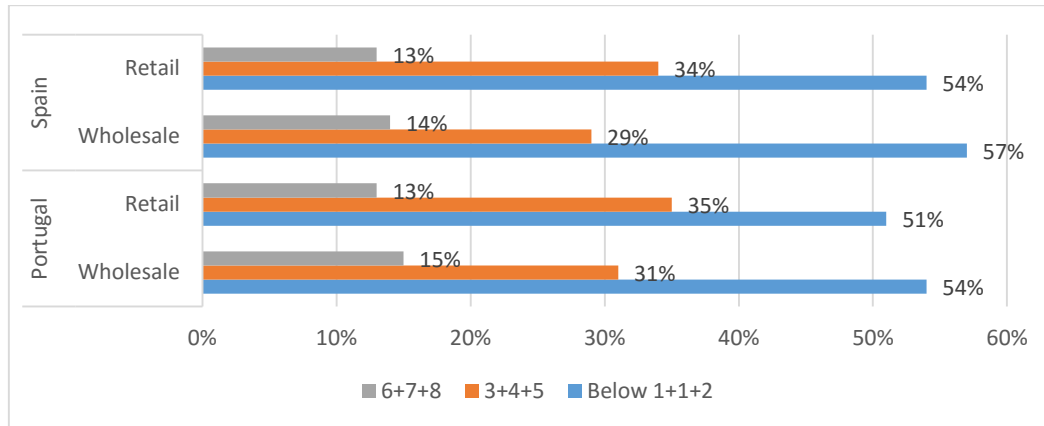
Source: National Statistics Institutes, 2013

e. Number of persons employed and qualification / educational level

As we can see below, the three countries under review have a different training and educational systems, especially when we compare Portugal / Spain with Austria. In the latter case there is already-strong investment in professional / dual education when compared to Portugal and Spain.

In Portugal and Spain, the sector in question is characterized by the low education levels of its assets. In Portugal and Spain, a very significant percentage of people employed in the sector had level 2 of qualification or lower. On the other hand, human resources with level 6 of qualification or higher had a small weight in the total of these employees: 14% for the both countries (Chart 8).

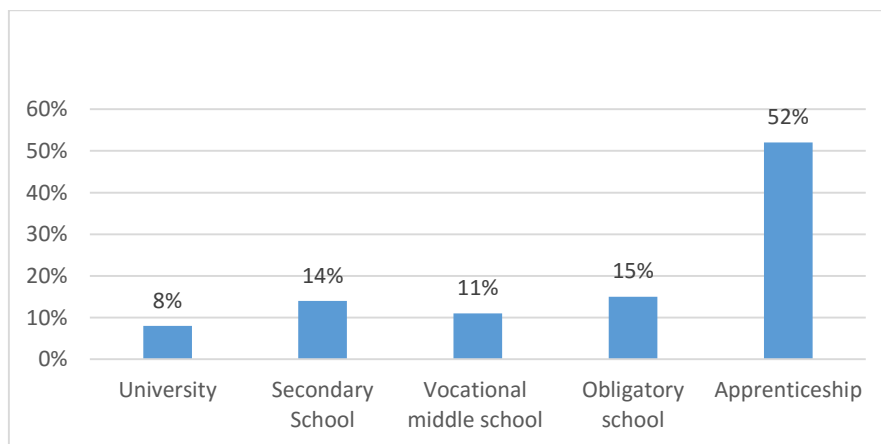
Chart 8 – Persons Employed and Qualification level (Portugal and Spain)



Source: National Statistics Institutes, 2013

In Austria, as we can observe in the chart below, 63% of all employees have completed an apprenticeship or middle vocational school, 15% have none vocational training, but only compulsory education.

Chart 9 – Persons Employed and Educational level (Austria)



Source: <http://bis.ams.or.at/qualibarometer/>

f. Evolution of the number of persons employed in the sector

In Portugal, the number of people employed in the sector has remained relatively stable over the past few years (Chart 10). However, from 2008 (year that triggered the financial and economic crisis) until 2013, we can observe a decrease in the number of persons employed in the commerce sector

Regarding Spain, specifically the persons employed in the last three years, we can also see a negative variation in the commerce activity. However, in the end of 2013, we could assist to a small increase of the sector employment, due to the end of the economic crisis.

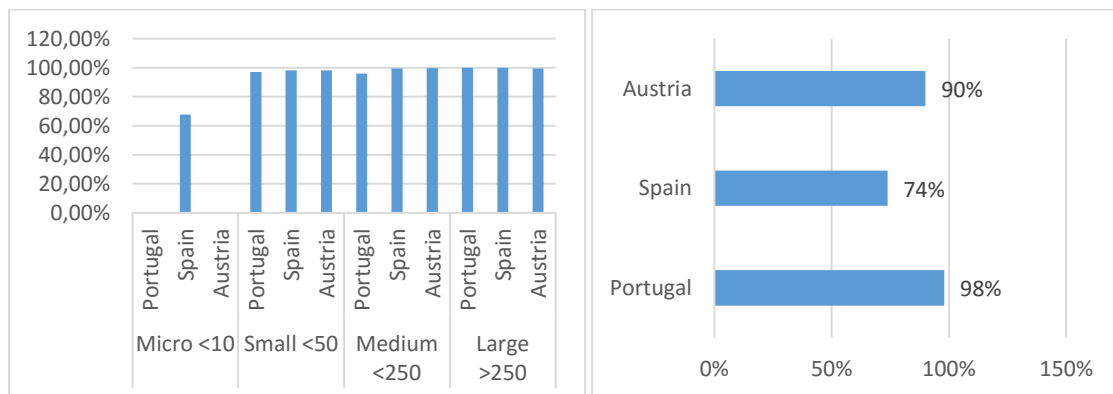
Concerning Austria, this country also report a decrease in employment in the last years, reaching -2,7%, in 2013.

3 - Use of ICT by enterprises (%)

a. Enterprises with internet connection per size of enterprise

As shown in charts 12 and 13, the proportion of enterprises with internet connection is superior to 85% (in total terms). This is indicative of the degree of importance given by them to this type of tool and follows the global development of society in the use of ICT. We can observe also a lack of information concerning to micro enterprises, because it was impossible to have this kind of data from the Portuguese and Austrian sources.

Charts 12 and 13 – Enterprises with Internet Connection



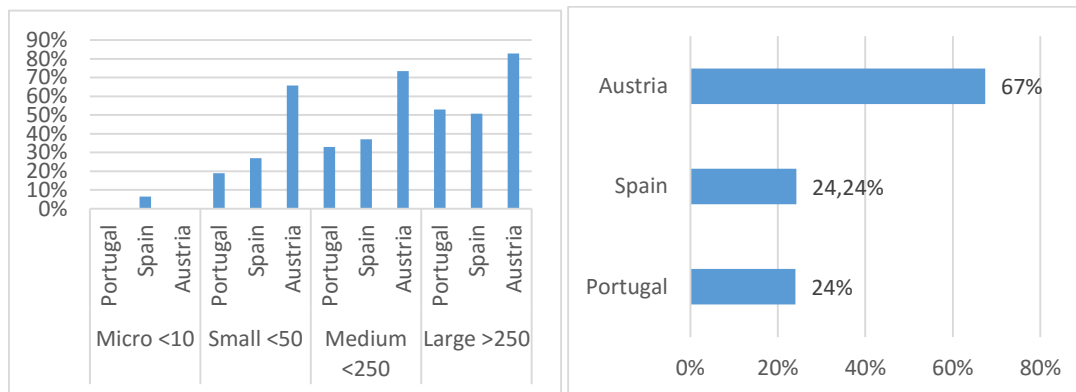
Source: National Statistics Institutes, 2014

b. Use of e-commerce (to make and/or receive orders) per size of enterprise

Specifically, and in response to new consumption patterns and the increasing ease in accessing and using new information technologies, from both customers and companies, the sector has been focusing on Electronic Commerce.

The proportion of companies who have been using e-commerce to give or receive orders by electronic networks stood at 39% for the three countries. Austria is the country with a highest proportion of enterprises using e-commerce (67%).

Charts 14 and 15 – Use of e-commerce



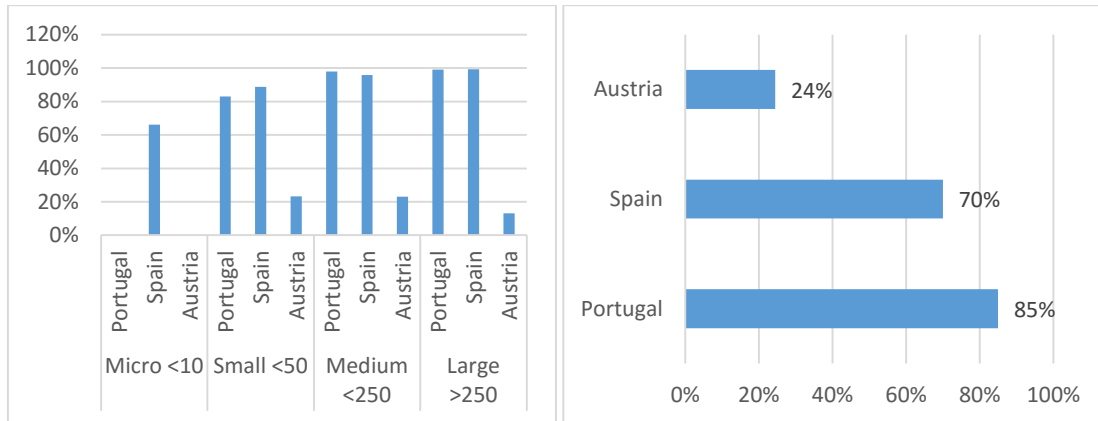
Source: National Statistics Institutes, 2014

c. Enterprises using the Internet to interact with public agencies, and others entities per size of enterprise

The chart 17 show us the resource of companies to Internet in order to interact with public authorities and others, by which it is possible to observe that, on average, more than 80% of Portuguese companies resort to this type of tool, against 70% in Spain and 24% in Austria.

The survey on the use of information technology, carried out by INE in 2012, stated that 87% of Portuguese companies presented as the main reason for interacting with public entities, the fill and submission of forms / online forms, followed by obtaining forms and implementation of administrative procedures related to VAT returns and social security (80%).

Charts 16 and 17 – Using internet to interact with public agencies

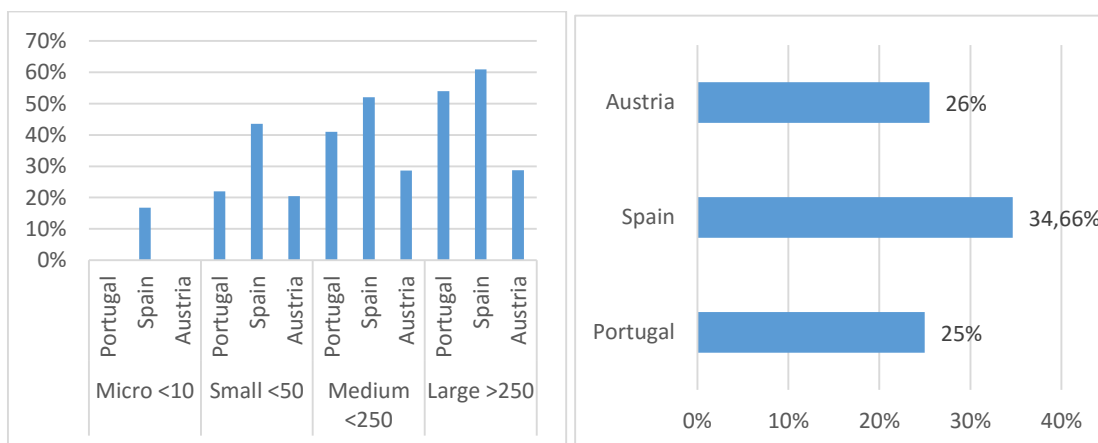


Source: National Statistics Institutes, 2014

d. Enterprises using application software (CRM- Customer relationship manager) per size of enterprise

Given the graphic below (Chart 19), we can conclude that companies that rely on CRM software applications are large enterprises (250 and more persons employed). When we compare the three countries, Spain is the country with a highest percentage of enterprises using this kind of application software.

Chart 18 and 19 – Using of Application Software (CRM)

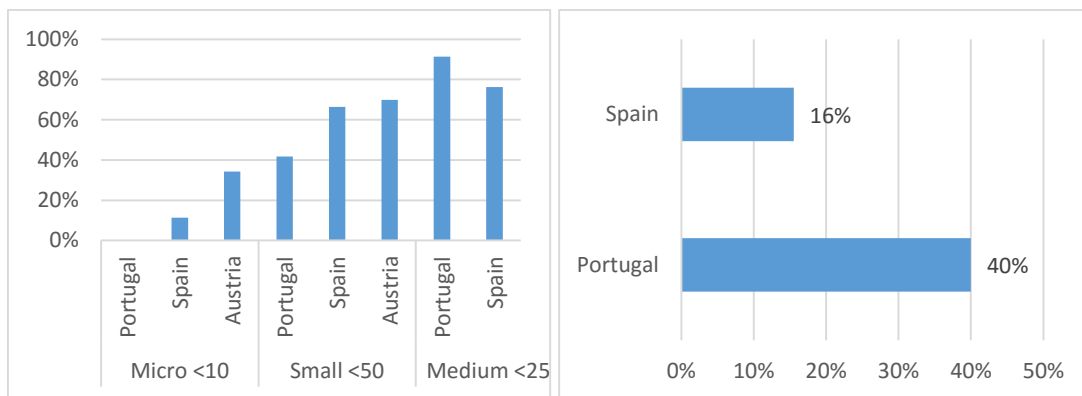


Source: National Statistics Institutes, 2014

e. Enterprises using application software (ERP- Enterprise Resource Planning) per size of enterprise

With regard to the use of ERP application software (Planning of the Company's Human Resources) we can observe a higher percentage in the use of this tool by the Portuguese companies compared to Spanish companies, in contrast to what happened with the use of CRM application, previously mentioned.¹

Chart 20 and 21 – Using Application Software (ERP)



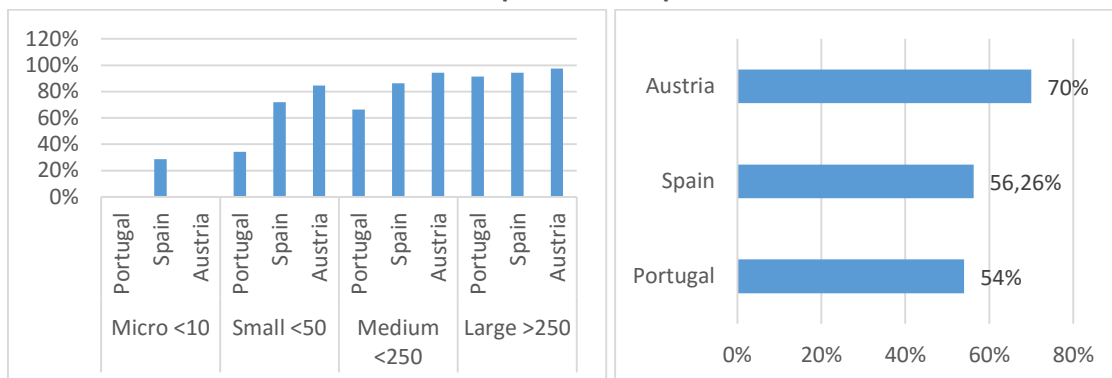
Source: National Statistics Institutes, 2014

f. Enterprises with a presence on the Internet per size of enterprise

The charts 22 and 23 show us the proportion of firms by size, with a presence on the Internet and we can see that, globally, 60% of companies has it. In Portugal, the smallest companies have the lowest percentage in using this tool, even if the medium and large companies follow similar patterns observed in companies from Spain and Austria.

¹ It was not possible to analyze this kind of tools in Austria.

Chart 22 and 23 – Enterprises with a presence on the internet

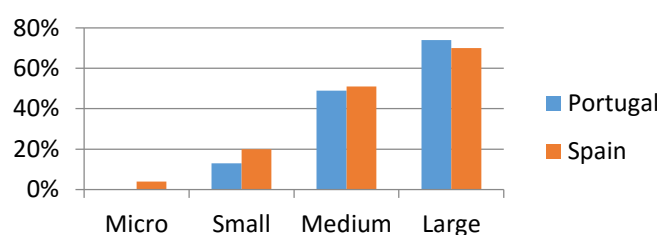


Source: National Statistics Institutes, 2014

g. Enterprises with human resources with ICT skills per size of enterprise

With regard to human resources with specific expertise in this area, we can verify a low-percentage of this expertise in small businesses. Rather, it is established that the large companies are the ones where we can find the highest percentage of employees with such skills.²

Chart 24 – Enterprises with human resources with ICT skills per size of enterprise³



Source: National Institute of Statistics

² It was not possible include the data from Austria.

³ It was not possible include the data from Portugal concerning to micro enterprises.

IV - Trends in the Sector

Developments in the trade sector has been marked by several drivers, among which globalization, demographic change, the economic crisis and resulting decline in purchasing power, technological innovation and the use of e-commerce.

Those drivers lead to some trends in the trade sector which are worth highlighting:

- Globalization of markets led to the setting up of supply and sales global networks and the relocation of ICT-based business activities;
- Franchising as a "vehicle" for the internationalization of some business models, supported by the development of a concept and brand;
- The slowdown/stagnation in the growth of the available income results in a higher selectivity for consumer strategies, and the resulting choice based on the value proposition (price *versus* quality);
- Integration of service and sales aspects;
- Higher valuation of the assistance and service quality, as well as of the advising function;
- Use of different sales channels (physical stores and online channels) in commercial activities;
- Automation of sales operations and introduction of differentiated business models;
- Increased focus in values which are oriented to environmental protection and sustainability ⁴.

a. Employment opportunities in the sector

In Portugal, and similarly in Spain, concerning employment, it's not expected to reach, in general terms and by 2025, an employment level similar to that of the pre-crisis period.

Still regarding with Portugal, there's a foreseen employment growth of 1,8% for wholesale and retail, having the wholesale a higher potential for job creation than the retail sub-sector.

However, it should be noted that, given the level of employment in the trade sector in Portugal, it will always have a very significant contribution to the creation of new employment

⁴ Source: Quaternaire (2015), *Strategic Program of training for trade and services (2014-2020)*, CCP, Lisbon.



ALL-ECOM

opportunities in the country, as we see even in the table below - although almost all are due to the need for renewing the labour-force.

After Germany, France and Great Britain, Austria is in fourth place in the ranking target markets, seeking to expand in the commercial business in the year 2014. This emerges from a recent study among 150 European, American and Asian retailers. As a result, new job opportunities arise.

Trade sector is among the largest industries in Austria and is the second largest employer in the country. In the Austrian Retail there has been a continuous increase in employment in recent years. The greatest opportunities for employment are in retail on part-time basis and marginal employment. The high part-time rate applies particularly to women. The proportion of part-time jobs in the retail sector is extremely high and is on average around 45%.

The Retail sale of cosmetic, sporting goods and books and stationery achieved the highest sales growth in recent months. Also retail trade in various goods, shoes and the food sector rose in percentage terms. Overall, the retail sector is on a stable level of sales, and companies are confident about the coming months.

b. Employment development by qualification levels

Despite growing old, the workforce, in the three countries included in this report, is becoming more skilled. This is explained by the departure of older people and low-skilled labour and by the entrance in the market of younger people with higher qualifications.

Given the current trends, and according to CEDEFOP predictions⁵, it is expected in by 2020, about 41% of its population aged between 30 and 34 years, in Portugal and Spain, will be highly qualified, thereby reaching the EU benchmark aiming for 40% in 2020.

CEDEFOP forecasts point to a gradual improvement in the employment qualification structure, in Portugal, until 2025, showing a higher weight of the high and medium qualifications altogether, than the low ones.

Regarding to Austria, by 2016, a dynamic growth of sales occupations is forecasted, it is because increasingly skilled jobs are in demand rather than unskilled work. More than a half of workers in the sector can be found in retail stores. Most companies are active in selling clothes, food, and interior needs. Especially in this branch people work with completely different training profiles and qualifications. This also allows career changers access to this sector. Due to the high

⁵ Source: CEDEFOP (2015) "Skills forecasts Country Portugal", European Centre for the development and Vocational Training, European Commission.



ALL-ECOM

turnover those who worked in the sales sector represent the third largest group among the registered jobseekers.

c. Variation in the employment by qualification levels

Despite the very high proportion of labour force with low qualifications, in Portugal and Spain, this has been decreasing and it is estimated that, by 2025, it will have reached 45%, in the first case, and 31% in the second.

On the contrary, jobs requiring medium and high qualifications are foreseen to evolve positively as in Portugal as in Spain. Even in times of crisis and of a significant contraction in employment, the most qualified employment - requiring secondary and higher education - has grown. Projections⁶ point to the strengthening of this trend in the next decade, in Portugal as well as in Spain, and an increase of 28.7% and 37.8%, respectively, in the use of high qualifications, and 20.6% (Portugal) and 31.1% (Spain) in the use of intermediate qualifications are expected by 2025.

In Austria, the retail sector is of great importance in the apprenticeship behind trades and crafts. Approximately 15% of all apprentices are trained here. However, more and more commercial enterprises cannot cover their demand for apprentices. The reason is that schools are often more attractive than apprenticeship and cohorts with a low birthrate.

d. Jobs opportunities by qualification levels

The integration of markets, in the technological terms, introduces significant disruptions in the business activity, which is strongly differentiated depending on the respective context, branch, and business segments. The evolution trends in the trade sector explain the gradual transition to a services society.

However, this increased use of new technologies does not only happen on sales (as usually suggested by e-commerce), but is extended to the provision of pre and post-sale services, as well as to the organization and business management process itself.

SME aiming to strengthen the skills of entrepreneurs and workers should do so, in particular in areas such as the digital economy, strategic approach to business and innovation⁷.

⁶ Source: CEDEFOP (2015) "Skills forecasts Country Portugal", European Centre for the development and Vocational Training, European Commission

⁷Source: VALENTE, Ana Claudia (2014), *New labor markets and new professions - prospective study Consortium Increased Employability*, Student Forum, Lisbon.

A prospective study dedicated to new labour markets and new professions⁸, reveals that "more than half of job opportunities estimated to Portugal for the next decade, requiring high qualifications, will be in four major professional groups, heavily knowledge-intensive: (1) experts in business support functions and activities of business services, especially in finance, administration, commercial, legal, social and cultural affairs and specialists in information and communication technologies; (2) health professionals; (3) experts in science and engineering; (4) managers in service activities, including specialized services, hotels, restaurants, commerce and other service activities".

In general, the prospects for saleswomen are still sector- and filial specifically different: Good employment opportunities can be expected in the growing corporate chains, currently especially in the food and cosmetics sectors. Reasons for this are the very high turnover and the permanent replacement demand. For women on re-entry who have no specialized training, there are good employment opportunities if they can demonstrate commitment and willingness to learn. Generally in urban areas increasingly skilled workers are required.

In Austria, a large proportion of employees in sales have completed an apprenticeship. Shop assistant is the most frequently chosen of all professions, especially of young women. The proportion of part-time working women in trade is very high, particularly in the food sector. If perspectives and opportunities can be identified, it is more interesting for young people to decide for apprenticeship.

In other hand it is necessary to refer that a Lifelong learning will get more and more important for older employees in the sector to fill the gap caused by demographic development. Job-profiles and vocational trainings have to be adapted with all consequences, what means a significant challenge for social partners.

e. Employment trends and anticipated vacancies

It is also expected that new technologies will expand the personalization and customization phenomena. In parallel, it is important to recognize that the commerce sector has been adapting itself to this reality and to the trends that point to the future, seeking to respond to the new technological formats and changes in consumption patterns, inevitably impacting the future of the sector.

⁸ Source: Idem, Ibidem.

Consumers live longer, are more urban and diverse, have a higher level of education and are more informed. Therefore, they are more demanding, look for products that have integrated services and are increasingly using information and communication technologies: computer, internet, social networks, mobile phones, virtual reality, new forms of payment and smartphone (apps, mobile marketing and geo-referencing).

A long-term trend in e-commerce issue is the establishment of showrooms: locally customers get consultation and try out/on, and then they buy online. In cross-channel sale they order online, the goods can be tried and picked in the business of choice, and taken away if wanted. If not customers can leave the product in the store. An increasingly closer integration of suppliers and manufacturing companies promotes international cooperation, especially in the sale sector.

We should be aware that new patterns of consumption related to the use of new technologies, resulting in a set of dynamic relationship between the presence in the Internet, the physical space, presence in social networks and the use of mobile communications, which are present, in an increasingly integrated manner, making the shopping experience a multifaceted process.

With the speedy evolution of e-commerce, the sector will be required to make an increased investment in technology and talent, which imposes having the needed skilled workers to improve its business performance. Since Portugal has a gap between the existing and the required skills, this calls for an urgent investment in the improvement of skills in e-commerce, not only for workers but also for employers.

Austria pointed the competences that are required today and in future do not correlate with the currently available competences of the existing staff – especially in retail.

According to the Report Spain Skills forecast (CEDEFOP-2015) in Spain, between now and 2025 most job opportunities, around 27%, will be for service and sales workers, much higher than the 16% forecast for the EU as a whole.

ANETIE (National Association of Companies of Information and Electronics technologies), in a study that focused on the needs of human resources in the sector of Information Technology (IT)⁹, refers to the shortage of qualified and specialized human resources in this area who can fill in the number of related jobs, as the different business areas of the companies, in general, are increasingly dependent on ICT. Moreover, the projections for Portugal point to 15,000 unfilled for lack of skilled labor in 2020, about five times more than was projected for 2012¹⁰.

⁹Source: NATIONAL ASSOCIATION OF ENTERPRISES OF INFORMATION TECHNOLOGY AND ELECTRONICS (2014), *HR Specific needs for the IT sector - Conversion of unemployed*, Anetie, Lisbon.

¹⁰ Fonte: VALENTE, Ana Claudia (2015), *Mapping the supply of education and training in Information Technology, Communications and Electronics in Portugal*, Portuguese Coalition for Digital Employability, Calouste Gulbenkian / Foundation for Science and Technology, Lisbon.

Consequently, it's fundamental that we put in place requalification strategies able to convert, in due time, unemployed people from other areas for digital jobs, motivating also young people for training and future careers in ICT.

According to the annual report of "Observatorio Nacional de las Telecomunicaciones y de la Sociedad de la Información" (2014), for Spain, it is necessary to professionalize the commerce sector both face-to-face and online, using new technology, because in many cases, this jobs are seen as a crossing point.

Beyond the ICT skills, including the essential digital literacy, when employers recruit young people with higher education, they value a mix of skills, which notably include the following:

- applied knowledge, with experience in real contexts throughout higher education;
- functional availability (multi-skilling and multi-tasking) and for geographical mobility;
- creativity in addressing problems and finding solutions;
- ability and willingness to learn continuously;
- initiative and entrepreneurship;
- ability to work in a project logics and in international networks,
- ability to work in collaborative environments and multidisciplinary teams;
- business skills and business vision;
- foreign languages.

f. Identification of change drivers on the jobs

The revolution in e-commerce increasingly leads to international competition. Technologically, purchasing via smartphone is no longer a rarity. Trade associations appeal to companies to react on the cross-border online trade and to be active on the internet. Experts point out, that in addition to the online trading stationary retail will still exist. Here the creation of salesrooms becomes increasingly important, with parallel reducing of retail space and fixed costs. A both-even strategy is recommended: online combined with steady trade. As the largest opportunities for small commercial enterprise service and specialization were identified. The next step in e-commerce represents a tailored selection from the variety of offers, which is generated by user's settings at online stores.

According to the annual report "Observatorio Nacional de las Telecomunicaciones y de la Sociedad de la Información" during 2014 e-commerce has shown an average increase of 21,8% compared to the previous year. It means that shopping habits are changing. In the context of ecommerce.

The permanent development and change in the sector only can be faced if workplaces are seen as learning-places and life-long learning is part of personnel development which means a great challenge for companies.

When observing changes imposed by the introduction of innovations resulting from technological upgrades, in the trade sector, Quatenaire (2015)¹¹ also wanted to present the change drivers to which the sector is subject to, resulting from the incorporation of ICT in all activity performed by companies. Some of the identified drivers of change are mentioned below:

- Interaction between ICT and business design and planning functions;
- Use of ICT in back-office functions;
- Use of ICT in communication, information and promotion functions, as well as in customer loyalty strategies;
- Use of ICT in the supply activity;
- Distance-selling supported by the Internet;
- Online and mobile channels in supporting and integrating the marketing functions;
- Communication, sales and after-sales service;
- Automation of sales operations and, that way, the introduction of differentiated business models.

The same organization also mentions the urgency of focusing on integration and monitoring of technological innovations such as platforms required to support the organization and business management, as well as its use for a simplification of procedures and control of activities; in Web development, in information, dissemination and sales online channels management; in the optimization of the presence in online channels, as well as in promoting the use of improvement tools from those same channels and in the ability to use the digital economy to expand markets and the supply of available services.

¹¹Source: Quatenaire (2015) *Estudo: "Programa Estratégico de formação para o comércio e serviços (2014-2020)"*, CCP, Lisboa

The European Commission¹² also refers to the digital economy as "the most important driver of innovation, competitiveness and growth in the world. The key to the growth of the European business is precisely on how fast companies will be able to incorporate digital technologies in their operations".

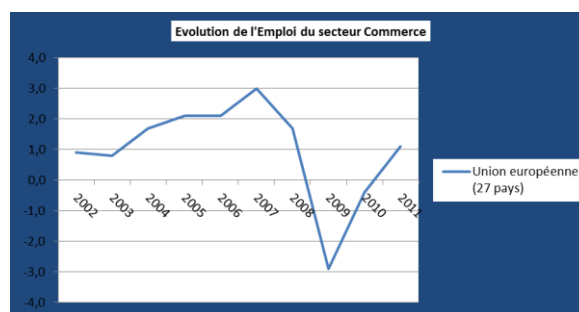
V - How technologies affect jobs in commerce

E-commerce and e-commerce applications are an essential part of business world and private life. The expansion of internet and the rapid development of information and communication technologies are constantly new impulses in the areas of e-commerce: Social networks like Facebook, twitter & co., smartphones, tablet PCs and apps open up new opportunities in the fields of communication, marketing, advertising, sales and distribution. Of high importance in this context is social commerce: customers get online in contact with other companies or customers and communicate their feedback or recommendations for products or services. Internet reports published by buyers are in some sectors already the most important information for consumers and influence their purchase decision considerably.

In terms of employment level, the sector has experienced a continuous growth of jobs in recent years.

Although the crisis of 2008 has marked a sharp break in this progression, the number of jobs in this sector, in Europe, is now again on the rise despite the persistent high unemployment rates:

Chart 25 - Employment Evolution in the Commerce Sector



(Source: Eurostat - Change in percentage compared to the corresponding period of previous year)¹³

¹²Source: European Sector Skills Council Commerce (2015), *Employment and Skills, Report 2014*, European Commission, Brussels

¹³ Source: In European Skills Council Commerce (2012), *Impact of Change & New Technologies on Skills & Occupations in the Commerce Sector*, Consulting Europa, Brussels.



According to Eurostat 2011¹⁴, the commerce sector, is, in Europe, characterized for 6 513 770 companies, 25 960 000 employees and 6 981,3 Billion € of turnover.

a. Kind of impacts

The constant search for efficiency in the response to consumer demand requires improvements in the management of any business. New technologies have, therefore, an important role in company activities and require employees who have a profile able to improve its performance. The use of such tools allows businesses significant efficiency gains, a greater control of the business and an increased capacity to centralize the management of its stores.

The study from the European Skills Council Commerce (2012), stresses that the new information and communication technologies have become the main key tool for marketing departments. Even without having to be an expert, it is essential that each professional in this area incorporates such knowledge in its relationship with the customer, taking into account the necessary company marketing strategy.

Jobs are increasingly involved with automation mechanisms and simplifying processes. The development of versatility, teamwork, communication skills and the use of technologies have become important and call for an improvement in education and training.¹⁵

In terms of internationalization of businesses with a physical presence, global trends reinforce business opportunities strongly supported by global brands and concepts, or by investment capacity. In this plan, only a sufficiently innovative market will be able to cope with competitive European markets, and should deepen the new opportunities offered by the technological factor.

Associated with the growing use of new technologies, as well as the greater complexity of business activity, we have witnessed an increasingly developed logistics activity that will tend to gain autonomy in all business areas, especially in large companies. The logistics component proves to be very important, as well, especially for wholesalers who have been assuming a role in the control of distribution.

¹⁴ Source: In Idem, Ibidem.

¹⁵ Source: Expert Group on Future Skills Needs (2010), *Future Skills Needs of the Wholesale and Retail Sector*



Also, the ageing population turns out to have significant impacts on commerce, as it appreciates services of proximity and convenience. Service convenience is a component which gains importance for this segment, and imposes itself as a competitive asset for the market proximity.

Technology is deployed in coordination and complementarity with other strategies. Trends refer the mobilization of different online channels in the context of commercial activity, assigning specific goals and objectives to each of them, including the internet, social networks and mobile applications, for example. The use of these tools introduces a multi-channel approach in the relation with the market or the evolution to the "cross-channel" logics.

The functioning of commercial companies back-offices (stock management, billing and provisioning, for example) is one of the areas where the impact of information and communication technologies remains more latent. The use of ICT allows flexibility and immediacy in purchasing processes and management and coordination of supply flows and exchanges, bringing more flexibility to the operating modes.

The next few years will represent a continuous challenge for retailers, both externally - responding to consumers having less purchasing power, but being more demanding and informed, in an increasingly global scenario - and internally, focusing on the efficiency and optimization of their so-called "traditional" distribution structures.

According to the report of *Informe ePYme 2014 "Análisis de implantación de las TIC en la pyme española"*, increasingly the digital divide is being shortly between large and small companies. Retail companies consider as the main benefits of digital technologies improvements in short order cycles, in communications, data exchange, etc...

The main areas of application of e-commerce are following: B2C (Business to Consumer, E-Commerce for final customers): the use of online shopping is increasing. More and more stationary traders rely on multi-channel retailing and create online shops in addition to their retail stores; B2B (Business to Business, e-commerce between companies): this form of e-commerce is much more widespread than the public generally perceives. Companies are taking advantage of information gathering, rapid ordering as well as the comparisons of industry-specific portals; C2C (Consumer to Consumer, e-commerce between clients): electronic business relationships between individuals play an increasingly important role. On internet market places and evaluation platforms products are sold and evaluated; e-Government (communication between citizens and administrative authorities or the State): this field of application refers primarily to the settlement of administrative tasks using information and communication technologies.

Bellow, we indicate some challenges that the retail trade sub-sector is facing:

- i – the need to create differentiated experiences, in order to understand consumers, taking into account their needs and preferences, in all channels, to make experiences, products and services personal and to anticipate trends and consumption habits;
- ii - omnicanal reality, adjusting the sales channels and points of contact to the consumer, with a consistent and transversal value proposal, allowing access anytime and anywhere, maximizing the customer experience at all touch- points of his journey;
- iii - integrated and efficient operations that enable a response capacity in omni-channel reality and an integrated approach, from the supplier to the consumer;
- iv – leveraging the information power, with the ability to structure and process information, to proactively respond to consumer behaviors and decision-making on business.

b. What new jobs

The importance given by the retail sector to the presence on the Internet continues to increase, both as a marketing factor and to reach an online sales platform (European Skills Council Commerce, 2012¹⁶).

The European Skills Council Commerce (2014)¹⁷ mentions, in its report and relating to 2013, some of the advantages that betting on a presence on the internet - specialized in e-commerce - brings to companies, such as:

- i. The possibility to start a business of the kind, using new technologies without the need to make a major investment;
- ii. The inclusion of a virtual client, enabling a potential growth on sales;
- iii. The benefits resulting from advanced commercial technologies, bringing an improvement to the company's image and prestige; the improvement of the potential market, offering new opportunities for sales increase;
- iv. Reduction of costs related to human resources, which potentiates a rise in employment; reinforces sharing with other markets, offers advanced services and the improvement of customer satisfaction;

¹⁶Source: European Skills Council Commerce (2012), *Impact of change & new technologies on skills & occupations in the commerce sector*, Consulting Europa, Brussels.

¹⁷Source: European Sector Skills Council Commerce (2014), *Employment and Skills, Report 2014*, European Comission, Brussels.



- v. Attraction of new customers and reinforcement of their loyalty, allowing an increase in companies' competitiveness, by means of a faster response to the customer;
- vi. Expansion of the business area, with no increase in costs;
- vii. Higher profit margins, thanks to the new activity.

The growth in online commerce, particularly in the clothing sector, books, electronic products, in which purchases are normally distributed by mail, on a request made through the internet, and the transition from a physical sales model to an online model requires companies to check their logistics strategies and train experts in this field, making them able to understand the specific changes required for each kind of circumstance.

According to the "State of the Innovation Union 2012. Accelerating Change, Directorate General for Research & Innovation", Technology systems play a major role in respect of inter-firm retail functions and many "intelligent technologies" have emerged during the past few years supporting a number of retail functions (business analytics, mobile purchase process, big data technologies,...)

The technological and innovation breakthrough requires their integration and monitoring as necessary platforms to support the organization and business management, as well as the simplification of processes and the monitoring of the activity. Thus, it is relevant to promote, in the sector, the Web development, the management of online channels for information, dissemination and sales, and optimizing the presence in online channels. We also need to increase the ability to explore the digital economy, in order to expand markets and supply of available services.

The online requests grow increasingly; as such, there are jobs that face different realities, depending on customer needs, which impacts the necessary tools and skills required to some professionals, so that they can respond to new ways of working.

"Multichannel" consumers can obtain information on the location of a retail shop, they can learn more about the products before arriving at the stores, and can also buy online at late hours. This requires the improvement and construction of new profiles and new jobs (or functions), such as e-merchandiser; e-commerce front office employee and/or back-office; e-commerce entrepreneurs; technical specialist in e-commerce; e-commerce operator; graphic designer; "Integrator" (integrator); traffic controller; analytical Web systems; CRM manager; project technician and web functions manager; online shop controller; systems manager and e-commerce director (European Skills Council Commerce, 2012¹⁸).

¹⁸Source: European Skills Council Commerce (2012), *Impact of change & new technologies on skills & occupations in the commerce sector*, Consulting Europa, Brussels.

It is expected, for example, that the quick development of ICTs opens new perspectives for business and the creation of new professions, such as specialist in big data and cloud computing, digital entrepreneurs or managers with expertise in e-business and e-leadership (European Commission, 2010¹⁹).

In addition, Austria detailed job descriptions that are available:

Consulting:

- E-Commerce Consultant
- E-Lawyer
- Online Marketing Consultant
- SAP Consultant

Organisation:

- Database administrator
- Data security expert
- E-business manager
- Ecommerce developer
- E-logistician
- E-procurement manager
- Online merchant
- Specialist for e-tourism

c. What new skills

As mentioned in the study of the European Skills Council Commerce (2012), the fields of skills recognition and certification are fields which the European Commission has been addressing much, and it keeps developing key initiatives for the future. The European strategy for raising professional skills and profiles is based on different logics:

- i. The logic of equivalence, measured either by the equivalence among qualifications, or by training courses and professional upgrade;
- ii. The logic of transparency, with a conceptual basis to enhance communication between the different countries;
- iii. The logic of the development of references, following the trends in the market.

¹⁹Source: European Union (2010), *Europe's Digital Competitiveness Report 2010*, EU, Brussels.



Information and communication technologies have a central role in the development of innovative experiences that encourage the emergence of new learning needs. The use of technological development has different impacts on retail and wholesale, where the focus on logistics is more important. Challenges in innovation are crucial to these sectors, especially in aspects such as the improvement of “inventory” management, the organization of space and the improvement of demand and supply techniques.

The arrival of new technologies in the trade sector has brought severe implications, if we take into account the development of new profiles in the sector. These trends lead to monitoring the integration of these technologies in the development strategies of business activities and in the anticipation of more skills, so that they can be more competitive. Concerning the needed skills in the commercial area, we can highlight the profiles: “buyer”, which should have the ability to negotiate and to make the purchase order at the best price, expanding its function to the buying services and to the knowledge of other markets; the sales manager; and the commercial technician. In the area of logistics, we can refer the logistics manager; the shopkeeper; the responsible for deliveries; the maintenance technician and expert. Concerning the supporting functions, we highlight the administrative worker, the financial, the accountant, the internet and Information System (IS) specialist; the marketing technician; the quality and sustainable development technician.²⁰

The drivers of change in the business world and, in particular, the introduction of new technologies have led to the arising of new skills. The trade sector can be defined by a set of profiles resulting from the impact that such changes had on its activity, often leading to the emergence of new professions.

According to the “Informe ePyme 2014. Análisis de implantación de las TIC en la pyme española”, technology that contributes to the effective carrying out of tasks requires: having a range of basic IT skills, applying IT as a management tool, using IT to organize data.

The European Skills Council Commerce Sector indicated, in its report on employment and qualifications - 2014²¹, that a way of responding to new skills needs is to establish a specific qualification that provides potential employees with skills directly established by the labour market. For example, this effort has been recently made in Portugal, for example in the qualification “international trade specialized technician” - the first qualification, ever, of level 5 for the trade sector. This gives access to a post-secondary qualification level that helps to ease transition from school to work and allows, at the same time, progression to a higher level of

²⁰Source: European Skills Council Commerce (2012), *Impact of change & new technologies on skills & occupations in the commerce sector*, Consulting Europa, Brussels.

²¹Source: European Skills Council Commerce (2014), *Report 2014, Employment and Skills*, European Commission, Brussels



ALL-ECOM

education. In addition, this strategy also provides access to an attractive and necessary qualification that may promote young people's employability.

A survey conducted among 47 member companies of BCSD Portugal - Business Council for Sustainable Development - identified the five less available skills in Portugal:

- Technological engineering;
- Commercial, marketing and communication of information;
- Economic Sciences;
- Operations and logistics;
- Automation .

Among the referred skills, we can find the following examples of professions: network technicians, programmers and systems analysts (engineering technology), CRM technical / relationship marketing and e-commerce (business, information marketing and communication) and automation programmers (automation).

In addition to those scarce skills, the survey also identified five critical skills for business, i.e., those which are essential to the development of companies and their respective businesses, such as:

- Operations and logistics (chain of value);
- Automation;
- Commercial, marketing and communication of information;
- Materials and mechanical engineering;
- Technological engineering.

The study developed by Quaternaire (2015)²² warns about the technology push and calls for the mobilization of skills needed for networking, using various communication channels supported by ICT. Below, we can see, briefly, the work carried out by Quaternaire (above mentioned), which is based on the development of new qualifications, that are structured in competency units.

- *The qualification Technician/Sales and Marketing assumes, as an organizational principle, the gathering of the sales component currently present in the Technical/Sales and its association with areas of skills that are included in the Technician/Marketing.*

²² Source: QUATERNAIRE (2015), Study of "Strategic Training Programme on Trade and Services (2014-2020)", Final Report, CCP, Lisbon (pp 156-158.).

- *The qualification Trade Technician welcomes, as main areas to update, reception and advice to the client, marketing using online channels, after-sales service and follow-up, visual merchandising and skills needs for business undertaking and management.*
- *The qualification Secretariat Technician maintains the general framework of the qualification that already exists in the National Qualifications Catalogue, but an update of skills is proposed, to be mainly developed with regard to the areas of support to contracting procedures, the management of information, communication and the coordination of work teams.*
- *The qualification Logistics Technicians also exists in the National Qualifications Catalogue, but is subject to a review in the current proposal. In addition to the updating of more "classic" contents related to warehouse management component, this qualification intends to include also the intervention of the logistics component in the planning of production processes, to deepen the components coordination and monitoring of activity and of work teams, as well as of the distribution management.*
- *The qualification Communications and Customer Service Technician corresponds to the proposal for a new qualification that resulted from contributions received via ANQEP and pointing in the direction of creating a qualification in the area of contact centers and customer service.*
- *The qualification Support Management Technician updates the level 4 qualification already existing in the National Qualifications Catalogue. The reference tries to maintain a transversal approach to skills, promoting their updating taking into account, also, the level of qualification that now includes this qualification. The domain of management control, the aspect of interaction in expanded work teams, and of coordination of smaller teams, the field of marketing and communication, are privileged areas for the process of skills reviewing and updating that was implemented.*
- *The qualification of International Trade Specialist Technician already exists in the National Qualifications Catalogue. The strands of markets prospection and business planning, management of transaction processes and communication skills are some of the privileged aspects in the review process.*

VI – General Conclusions

1 - State of the art of the commerce sector on e-commerce: Statistic Data

1.1. General statistics of the sector

- Concerning the information obtained by three countries involved in All-Ecom project, 70% of Portuguese and Spanish companies belonged to the retail subsector and 30% to the wholesale subsector. 62% of Austrian companies pertained to the subsector of retail and 38% to the wholesale subsector. The overwhelming majority of enterprises in the commerce sector, in Portugal, Spain and Austria, are micro and small, representing these businesses, 92% of total wholesale companies and 97% of total retail firms.
- The entire turnover of the trade sector, exceeded EUR 910 billion and the wholesale sub-sector was responsible for 66% of this amount.
- In Portugal, the commerce sector is responsible for employing 21% of the persons employed in Portuguese companies. Austria has a very close situation, with 63% of persons employed in the retail subsector. In all of the three countries, the micro and small companies of the commerce sector (65%) are responsible for the most part of the personnel employed in this sector.
- With regard to gender, the most persons employed in the wholesale sub-sector are men, in contrast to the retail sub-sector, where most part of the persons employed are women.
- In Portugal and Spain, the sector in question is characterized by the low education levels of its assets. In Portugal and Spain, a very significant percentage of people employed in the sector had level 2 of qualification or lower.
- In Austria 63% of all employees have completed an apprenticeship or middle vocational school, 15% have none vocational training, but only compulsory education.
- In Portugal, the number of people employed in the sector has remained relatively stable over the past few years. However, from 2008 (year that triggered the financial and economic crisis) until 2013, we can observe a decrease in the number of persons employed in the commerce sector.
- Regarding Spain, specifically the persons employed in the last three years, we can also see a negative variation in the commerce activity. However, in the end of 2013, we could assist to a small increase of the sector employment, due to the end of the economic crisis.

- Concerning Austria, this country also report a decrease in employment in the last years, reaching -2,7%, in 2013.

1.2. Use of ICT in Trade

- The proportion of enterprises with internet connection is superior to 85% (in total terms). This is indicative of the degree of importance given by companies to this type of tool and follows the global development of society in the use of ICT.
- The proportion of companies who have been using e-commerce to give or receive orders by electronic networks stood at 39% for the three countries. Austria is the country with a highest proportion of enterprises using e-commerce (67%).
- More than 80% of Portuguese companies use internet in order to interact with public authorities and others, against 70% in Spain and 24% in Austria.
- The companies that rely on CRM software applications are large enterprises (250 and more persons employed). When we compare the three countries, Spain is the country with a highest percentage of enterprises using this kind of application software.
- With regard to the use of ERP application software (Planning of the Company's Human Resources) we can observe a higher percentage in the use of this tool by the Portuguese companies compared to Spanish companies.
- Regarding to the presence on Internet per size of enterprises, in Portugal, the smallest companies have the lowest percentage in using this tool, even though the medium and large companies follow the same patterns observed in companies from Spain and Austria.
- With regard to human resources with specific expertise in this area, we can verify a low-percentage of this expertise in small businesses. Rather, it is established that the large companies are the ones where we can find the highest percentage of employees with such skills.

2 - Main trends in the sector

In terms of the key trends / changing drivers:

- Developments in the trade sector have been influenced by several drivers, among which globalization, demographic changes, the economic crisis and the resulting decline in purchasing power, technological innovations and the use of e-commerce.
- The globalization of markets has led to the setting up of supply and sales global networks, and to the relocation of ICT supported business activities.



ALL-ECOM

- Consumers tend to live longer, are more urban and diverse, have a higher level of education and are more informed. Therefore, they, are more demanding, look for products that have integrated services and are increasingly using information and communication technologies, resulting in new consumption patterns, as the multi-channel approach to the market (cross-channel).
- Therefore, there is a higher valuation of the assistance and service quality, as well as of the advising function.
- A growing use of ICT in all functional areas of business is foreseeable (not only in sales), as well as the individualization of lifestyles and consumption habits
- Preference for less harmful products to the environment with reduced environmental cost associated.
- Valorisation of physical proximity (either by aging or by the the rising of energy costs).

In terms of growth / variation of employment and qualification levels:

- In Portugal and Spain, until 2025, employment will grow, but not reaching its level of the pre-crisis period (2008).
- There's a foreseen employment growth of 1,8% for wholesale and retail, having the wholesale a higher potential for job creation than the retail sub-sector.
- Projections until 2025 suggest, in Portugal and Spain, a decline in jobs requiring low skills, and a growth in jobs requiring intermediate/medium and high qualifications).
- According to Cedefop's forecasts, by 2020 in Spain and Portugal, around 41% of the citizens with 30-34 year olds will has high level qualifications, above the EU educational attainment benchmark of 40%.
- Most job opportunities in Spain and Portugal will require high-level qualifications. However, there will also be significant number of job opportunities requiring medium-level qualifications.
- In Austria, the trade sector is among the largest sectors and is the second largest employer in the country. In the Austrian Retail subsector there has been a continuous increase in employment in recent years. The greatest opportunities for employment are in part-time jobs and marginal employment. The high part-time rate applies particularly to women. The proportion of part-time jobs in the retail sector is extremely high and is on average around 45%.
- The retail sector in Austria have a great importance in the apprenticeship behind trades and crafts. Approximately 15% of all apprentices are trained here. However, more and more commercial enterprises cannot cover their demand for apprentices. The reason is that schools are often more attractive than apprenticeship and cohorts with a low birth-rate.
- If perspectives and opportunities can be identified, it is more interesting for young people to decide for apprenticeship. The Chamber of Commerce in Austria increasingly



ALL-ECOM

runs image campaigns for apprenticeship as well as the current development of new attractive professions, especially in the field of e-commerce.

In terms of employment opportunities:

- According to the CEDEFOP (“Skills forecast up to 2025”) about 15% of job opportunities created by 2025 in Portugal and 27% in Spain, will be directed to professionals dedicated to the areas of services and sales.
- There is an awareness concerning the fast development of e-commerce which leads to new occupations in the sector.
- Austria refers that a large proportion of employees in sales have completed an apprenticeship. Shop assistant is the most frequently chosen of all professions, especially of young women.

In terms of skills

- There is a lack of digital skills, in Portugal, and the need for skilled workers in this area isn’t satisfied. Moreover, the projections point to 15,000 unfilled vacancies in this area, due to the lack of skilled workers in 2020.
- New and different skills are increasingly required - a mix of technology skills, business and entrepreneurship, a strong customer orientation, foreign languages, negotiating skills and contracts management, project management and the ability to work in multidisciplinary teams.
- Job-profiles and vocational training have to be adapted in order to face this new reality, what means a significant challenge for social partners.
- Austria adds that competences required today and in future do not correlate with the currently available competences, especially in retail.

2.1. Main challenges in the sector

- During 2014, e-commerce has shown an average increase of 21,8%²³ compared to the previous year. It means that shopping habits are changing. In the context of ecommerce, smartphone sales are becoming a strong part of the online business.
- The permanent development and change in the sector can only be faced if workplaces are seen as learning-places and if life-long learning became a part of personnel development, which means a great challenge for companies.

²³ Source: <http://www.elobservatoriocetelem.es/>



- The slowdown/stagnation in the growth of the available income results in a higher selectivity for consumer strategies, and the resulting choice based on the value proposition (price *versus* quality);
- Automation of the sales operations will occur, as well as the introduction of differentiated business models and a digitalization on operations;
- It will be necessary to make online platforms less complicated, in order to attract new agents/clients to the business;
- Logistics in the e-commerce model is different from the so-called “traditional” logistics, as well as the supporting activities to the client, demanding a differentiated organization and management.
- The demand from consumers for increasingly uncomplicated experiences, simple and fast, represents a considerable degree of complexity for retailers, both for understanding consumers themselves, and for developing mechanisms and tools that respond to the evolution of the act of purchase and consumption.
- There will be a need to create differentiated experiences, in order to understand consumers, taking into account their needs and preferences, in all channels, to make experiences, products and services more personal and to anticipate trends and consumption habits;
- Today’s reality is omni-channel, adjusting the sales channels and points of contact to the consumer, with a consistent and transversal value proposal, allowing access anytime and anywhere, maximizing the customer experience at all touch- points of his journey;
- Operations should be integrated and efficient, allowing a response capacity in omni-channel reality and an integrated approach, from supplier to consumer. A long-term trend in e-commerce issue is the establishment of showrooms: Locally customers get consultation and try out/on, and then they buy online (cross-channel).
- A both-even strategy is recommended: online combined with physical stores, as the largest opportunities for small commercial enterprise service and specialization were identified. The next step in e-commerce represents a tailored selection from the variety of offers, which is generated by user’s settings at online stores.

3 - How Technologies affects the Jobs in Commerce

3.1. Kind of Impacts

- Technology affects all parts of the sector – starting from application for a job over management tools or participation on global markets.
- The digital is being shortly divide between large and small companies.
- New technologies have therefore an important role in business efficiency and require the use of employees with a profile set to improve its performance.
- Jobs are increasingly involved with automation mechanisms and simplifying processes. The development of versatility, teamwork, communication skills and the use of technologies have become important and call for an improvement in education and training.
- The impact of evolution, caused by a deep transformation in technology, is visible and is beyond the traditional reference to distance selling and e-commerce as the main form of expression. To this, we have to associate the effect of diversification of the online use in the context of commercial activity.²⁴
- Associated with the growing use of new technologies, as well as the greater complexity of business activity, we have witnessed an increasingly developed logistics activity that will tend to gain autonomy in all business areas, especially in large companies.
- The impact of ICT is also reflected in the functioning of commercial companies back-offices (stock management, billing and provisioning, for example). The use of ICT allows flexibility and immediacy in purchasing processes and management and coordination of supply flows and exchanges, bringing more flexibility to the operating modes.
- The impact of technological dimension cuts across various fields of activity. For this reason, the effects it has on the content of jobs are extended to professional areas that, being relevant to trade, are situated in the segment of services providing to companies.
- The proliferation of e-commerce has, thus, increased the importance of customer strategies, since in an online context it becomes extremely easy for the consumer to compare prices, conditions and organizational value propositions.
- The proliferation of e-commerce has, thus, increased the importance of customer strategies, since in an online context it becomes extremely easy for the consumer to compare prices, conditions and organizational value propositions.
- New technologies related to virtual products and processes enable companies to launch new products and services, faster and with lower costs and risks.

²⁴ In *Future Skills Needs of the Wholesale and Retail Sector* (2010)

3.2. What new jobs in the sector:

- The technological and innovation breakthrough requires their integration and monitoring as necessary platforms to support the organization and business management. Thus, it is relevant to promote, in the sector, the Web development, the management of online channels for information, dissemination and sales, and optimizing the presence in online channels.
- Online requests/purchases grow increasingly; as such, there are jobs that face different realities, depending on customer needs, which impacts the necessary tools and skills required to some professionals, so that they can respond to new ways of working.
- According to a study from the European Commission on digital competitiveness, the quick development of ICTs opens new perspectives for business and the creation of new professions, such as specialist in big data and cloud computing, digital entrepreneurs or managers with expertise in e-business and e-leadership.
- Regarding with the impact of new technologies in the sector, promoted by Multichannel consumers, it is important to improve and built new profiles and new jobs (or functions), such as those described below:
 - Analytical Web systems;
 - Commerce director;
 - CRM manager;
 - Data security expert;
 - Database administrator;
 - Design of technical and web functions manager;
 - E-business manager
 - E-Commerce Consultant;
 - E-commerce developer
 - E-commerce front office and / or backoffice technician;
 - E-commerce operator;
 - E-merchandiser;
 - E-Lawyer;
 - E-logistician;
 - E-procurement manager;
 - Entrepreneurs of e-commerce;
 - Graphic designer;
 - Online Marketing Consultant;

- Online merchant;
- Online store controller;
- SAP Consultant;
- Specialist for e-tourism;
- Systems manager;
- Technical specialist in e-commerce;
- The "integrator"
- Traffic controller.

3.3. The main skills, competences and training needs concerning ICT

- The arrival of new technologies in the trade sector has brought severe implications, if we take into account the development of new profiles in the sector. These trends lead to monitoring the integration of these technologies in the development strategies of business activities and in the anticipation of more skills, so that they can be more competitive.
 - In Concerning the commercial area, we can highlight the following needed profiles: "buyer", which should have the ability to negotiate and to make the purchase order at the best price, expanding its function to the buying services and to the knowledge of other markets; the sales manager; and the commercial technician.
 - In the area of logistics, we can refer the logistics manager; the shopkeeper; the responsible for deliveries; the maintenance technician and expert.
 - Concerning the supporting functions, we highlight the administrative worker, the financial, the accountant, the internet and Information System (IS) specialist; the marketing technician; the quality and sustainable development technician.
- Life-long learning is quite important to make a connection with e-learning methods.

4 - The vision from different stakeholders

Taking in consideration the changes resulting from technological evolution, we highlight below some changing *drivers* that the trade sector is subject to, taking into account the main notes provided by the stakeholders:



- The existence of several “places” where you can shop = multichannel;
- Online shopping will continue to grow, and the trend will be that we stop looking at the physical establishment as we know it;
- The existence of online supports brings the companies’ ability to respond closer, regardless of their size;
- The co-existence of online and offline business models.
- Use of ICT in back-office functions; in communication, information and promotion; in customer loyalty strategies and in supply;
- Interaction between ICT and the business designing/planning function;
- Distance-selling supported by the Internet;
- Online and mobile channels in support of marketing functions;
- Communication, sales and after-sales service;
- With regards to a personalized advice, we see that customers use retail (physical stores) first, for consultation, and then they buy online (if cheaper).
- It’s urgent to invest in the integration and monitoring of technological innovations, such as mandatory platforms to support business organization and management; optimization of the presence in online channels; and exploitation of the digital economy, for markets expansion and service offering.
- There is a perception that customer loyalty can be achieved through loyalty cards, rather than by possible personal contacts. In the trade sector employees are seen only as sales technicians.
- Given the context of digital economy, the need arises to pay attention on issues related to a legal framework on data protection and privacy on the web, as well as on competition on the web.
- When we speak about online trading, we are speaking not only about sales but also about logistics;
- It is important to create additional activities that support the new value-supply chains and the offer given to clients;
- “Traditional sales employees” find less employment opportunities
- Some vocational schools specialized in sales sector are not able to implement ICT properly.

VII – Recommendations

The current qualifications have to be improved/updated, in order to respond to the skills needs resulting from the trends identified in this report.

New skills need to be created. The lack of ICT skills in professionals who think business can be critical to their success.

- Given the employability perspectives in ICT areas, it will be relevant to implement qualifications strategies able to reconvert, in due time, qualified unemployed people from other areas to the digital jobs.
- There is also a need to provide qualifications in the employment segments marked by low qualifications.
- Fast evolution of e-commerce will require an increased investment in technology and talent from the sector, to train human resources with the key skills to potentiate better business performance.
- It's urgent to define the set of qualifications and the set of skills and training references/standards that will require a reassessment in order to better adjust themselves to the sector's needs.
- Core skills identified:
 - Information management;
 - Having an analytical mind;
 - Learn to learn;
 - The ability to communicate at distance, both orally and in writing, in a foreign language;
 - The ability to build intercultural relations.
- On the other hand, it is essential to review the ICT qualifications references currently in place, assuring the possibility for their restructuring, so that they can be more adjusted to market needs and more easily upgradeable.
- Given the existing gap between the needed and the existing skills, it's urgent to focus on the improvement of skills in e-commerce, not only for company's employees, but also for employers (for business owners and managers, attending a training action in digital entrepreneurship would be fundamental).
- It should be noted, with regard to training offer, in this area, the necessary connection between educational institutions and companies, the quality training and employability of trainees, as well as the urgent adaptation of the training offer to the needs of employers.



- To respond to "ICT skills gap", currently registered, it is essential to find new audiences for ICT and include innovation in the training offer.
- Trainings have to be up to date and deal with current topics;
- The company has to be seen as a learning place by employer and employees.

IX – Bibliographic References

CEDEFOP (2015) "Portugal skill supply and demand up to 2025", European Centre for the development and Vocational Training, European Commission.

CEDEFOP (2015) "Skills forecasts Country Portugal", European Centre for the development and Vocational Training, European Commission.

DIGITAL ECONOMY ASSOCIATION (2014), *Quarterly Barometer of Electronic Commerce in Portugal 4th Quarter 2014 Earnings Release*, ACEPI, Lisbon.

DIONÍSIO, Pedro Gonçalves, Helia, Cardoso, Daisy (2012), *Behaviors of Information Search and Purchase Online*, Confederation of Commerce and Services of Portugal, Lisbon.

ECONOMY ASSOCIATION DIGITAL / DATA INTERNATIONAL CORPORATION (2013), *Digital economy in Portugal 2009-2017*, ACEPI / IDC, Lisbon.

ECONOMY ASSOCIATION DIGITAL / DATA INTERNATIONAL CORPORATION (2015), *Digital Economy in Portugal 2009-2020*, ACEPI, Lisbon.

EUROPEAN SECTOR SKILLS COUNCIL COMMERCE (2012) *Impact of change & new technologies on skills & occupations in the sector commerce*, Consulting Europe, Brussels.

EUROPEAN SECTOR SKILLS COUNCIL COMMERCE (2014), *Employment and Skills, Report 2014*, European Commission, Brussels.

EUROPEAN SECTOR SKILLS COUNCIL COMMERCE (2015), *Employment and Skills Report 2014 EuroCommerce*, UNI Europa - Commerce Global Union.

EUROPEAN UNION (2010), *Europe's Digital Competitiveness Report 2010*, US, Brussels.

EXPERT GROUP ON FUTURE SKILLS NEEDS (2010), "Future Skills Needs of the Wholesale and Retail Sector".

NATIONAL ASSOCIATION OF ENTERPRISES OF INFORMATION TECHNOLOGY AND ELECTRONICS (2014), *HR Specific needs for the IT sector - Conversion of unemployed*, Anetie, Lisbon.

NATIONAL INSTITUTE OF STATISTICS (2012), *Survey on the Use of Information and Communication Technologies in Companies*, INE, Lisbon.

NATIONAL INSTITUTE OF STATISTICS (2014) "Population projections resident from 2012 to 2060," Statistics Portugal, Lisbon.



NATIONAL INSTITUTE OF STATISTICS (2014), *Survey on the Use of Information and Communication Technologies in Companies*, INE, Lisbon.

NATIONAL INSTITUTE OF STATISTICS (2014), "Trade Statistics", INE, Lisbon.

PORTUGUESE ASSOCIATION FOR THE DEVELOPMENT OF COMMUNICATION (2015), "Business Trends and the Role of Information and Communication Technologies", APDC, Lisbon.

QUATERNAIRE (2015), *Strategic Program of training for trade and services (2014-2020)*, CCP, Lisbon.

VALENTE, Ana Claudia (2015), *Mapping the supply of education and training in Information Technology, Communications and Electronics in Portugal*, Portuguese Coalition for Digital Employability, Calouste Gulbenkian / Foundation for Science and Technology, Lisbon.

VALENTE, Ana Claudia (2014), *New labour markets and new professions - prospective study Consortium Increased Employability*, Student Forum, Lisbon.

Consulted sites:

www.ine.pt

www.pordata.pt

<http://observador.pt/especiais/economia-digital-digitalizacao-das-empresas-nao-opcao-inevitabilidade/>

<http://www.bcsdportugal.org/>

<http://www.ine.es/>

<http://www.revistasice.com/es-ES/Paginas/default.aspx>

<http://www.ipyme.org/esES/EmprendimientoUniversitario/Paginas/ProgEmpUniversitario.aspx>

<http://www.a-nei.org/>

<http://www.elobservatoriocetelem.es/>

http://minetur.buscador.gob.es/search?proxystylesheet=minetur&filter=1&site=MIN_IND_ES&q=comercio%20electr%C3%B3nico&hl=es

<http://bis.ams.or.at/qualibarometer>

http://www.ams.at/b_info/download/handel.pdf, 2015

ANNEXES

ANNEX I – Results from Qualitative Research

ANNEX II – Results from Quantitative Research

ANNEX III – Skills Gap Questionnaires

ANNEX I

Results from Qualitative Research

Skills, competences and training needs related to the use of ICT

Main conclusions reached (Portugal / Spain / Austria)

1 - Trends and challenges in the trade sector, facing the industry / technology and employment

The following two points have been unanimously outlined:

- ICT and e-commerce influence traditional professions.
- New qualifications arise, as a result from ICT and e-commerce.

Besides the above mentioned points, it was still possible to assemble a set of notes from the discussion, which can be grouped into three distinct levels: consumer level, company level and employment level, as outlined below:

1.1. Consumer

- Consumers have, now, a longer life and more qualifications. They are also better informed, and are increasingly using information and communication technologies. As such, we witness a more sophisticated consumption new standard, with a necessary impact on the trade sector.
- From the new patterns of consumption related to the use of new technologies, results an effective dynamics of relationship between the presence in the Internet, the physical space, the participation in social networks and the use of mobile communications, which are present in an increasingly integrated way, making the shopping experience a multifaceted process.
- This way, the client is, nowadays, more demanding and less tolerant about inefficiency, looking for rapid and effective responses from companies, to meet his needs. Before visiting the physical store, he will already have done, in most cases, research on the product he is looking for, making demands on the company's employees grow, not only in the virtual shopping, but also in the physical space. It is essential that e-commerce platforms can also include adequate information on the product availability.



ALL-ECOM

- There is a perception that customer loyalty can be achieved through loyalty cards, rather than by possible personal contacts. In the trade sector employees are seen only as sales technicians.
- When we think on e-commerce with a personalized advice, we see that customers use retail (physical stores) first, for consultation, and then they buy online (if cheaper).
- In the other hand it is important to mention something that can be a problem for e-commerce business: some customers are still afraid to buy on internet or to leave a message in a company website. One possible solution of overcome this matter is to give more information about such procedures in order to increase client's confidence and also improve the safety related to online transactions.
- Other factor mentioned as a problem, regarding buying online, is the absent of "shopping experience", because it is not possible, with e-commerce, "entering in the shops" or "see the shop-windows". The companies could make, perhaps, an effort to bring this shopping experience closer to customers, namely, by improving their websites: adding music, making them more user friendly, appealing designed, and interactive, improving the visualization of their products, giving back guarantee, giving online advice, etc. If companies show the advantages arising from the use of this kind of technologies, they could bring more customers to buy though their online stores.

1.2. Company

Focusing on company issues, it was possible to highlight both a number of opportunities and some challenges that they will face, resulting from the integration of ICT in their business.

Opportunities:

- The existence of several "places" where you can shop = multichannel;
- The Online shopping will continue to grow, and the trend will be that we stop looking at the physical establishment as we know it;
- The existence of online supports brings the companies' ability to respond closer, regardless of their size;
- The co-existence of online and offline business models

Challenges:

- The "old" business models have to be open to innovation and new business models;
- The presence of the multichannel business is inevitable, today, and these should be aware of the need for specialized training in the digital area;

- Online sales platforms will have to be simplified, as a way to attract new agents/customers to the business;
- Both logistics and customer support are different in the e-commerce model, when compared to the “traditional” logistics, requiring a different organization and management;
- It is important to create additional activities that support the new value-supply chains and the offer given to clients;
- Many companies in the commerce sector are in the market for many years and allow themselves to be led by the “flow” instead of build their own destination and learn with successful companies. There is an urgent need for those enterprises to “copy” the progress made by others in the global market (benchmarking).
- The main challenge for a more effective customer approach is to invest on the use of ICT, making this new tool easier to use and more adaptable to new markets.
- The investment and the use of new methods in this area is necessary for trade sector, because without them it is not possible to reach consumers that are increasingly using ICT on their purchases.
- Given the context of digital economy, the need arises to pay attention on issues related to a legal framework on data protection and privacy on the web, as well as on competition on the web.

1.3. Employment

Given the changes resulting from technological evolution, we highlight below some factors that push for a change in the trade sector, resulting from the incorporation of ICT in all activity:

- Use of ICT in back-office functions; in communication, information and promotion; in customer loyalty strategies and in supply;
- Interaction between ICT and the business designing/planning function;
- Distance Selling supported by the Internet;
- Online and mobile channels in support of marketing functions;
- Communication, sales and after-sales service;
- The automation of sales transactions and introduction of differentiated business models;
- Automation of sales transactions and introduction of differentiated business models;
- “Traditional sales employees” find less employment opportunities;

- In the other hand, the effort made by the enterprises to improve e-commerce functions could enhance the customer experience and, possibly, revert the situation of employment in this sector.

1.4. Training Needs in Electronic Commerce

Taking account of the factors from the preceding paragraphs, it's urgent to invest in the integration and monitoring of technological innovations, such as mandatory platforms to support business organization and management; optimization of the presence in online channels; and exploitation of the digital economy, for markets expansion and service offering.

Employment dynamics oriented towards administrative work and logistics create the need for investment in the qualification of human resources, in areas related to trade - in particular, sales.

At the same time, qualification of employment sectors marked by low qualifications is considered necessary.

In terms of qualification the following interventions are considered a priority:

- The current qualifications have to be enriched/updated to meet the skills needs resulting from the trends.
- Creation of new skills is needed. The lack of competence in ICT, from those who think business, can be critical to their success.

Thus, it was possible to list a set of ideas resulting from the above highlighted points:

- There are many factors that influence business activity, however, they all require adaptation related to the introduction of technology.
- The technology push calls for mobilization of expertise for network performance through communication channels supported by ICT.
- Fast evolution of e-commerce will require an increased investment in technology and talent from the sector, to train human resources with the key skills to potentiate better business performance. The core skills identified were: information management; having an analytical mind; learn to learn; the ability to communicate at a distance, both orally and in writing, in a foreign language; and the ability to build intercultural relations.
- Given the existing gap between the needed and the existing skills, it's urgent to focus on the improvement of skills in e-commerce, not only for company's employees, but also for employers (for business owners and managers, attending a training action in digital entrepreneurship would be fundamental).



- Mainstreaming "e-commerce" in the different existing qualifications, as well as the creation of a new offer of Technical Specialist in e-commerce - which could be level 4 or 5 – is considered relevant.
- Some vocational schools specialized in sales sector are not able to implement ICT properly.
- The system of apprenticeship does not cover the expanding demands brought by e-commerce.
- Further education and continuous on-job training have to achieve a more central role and incorporate: ICT competences, basic knowledge about e-commerce, simple technical application, role and functions of e-commerce and finally the changing behavior of customers, to enable employees (especially in retail) to connect e-commerce to their existing functions.
- For employers and employees it appears to be important to acquire competences, which allow them to meet the new requirements.
- In view of the foregoing, it is urgent to define the universe of qualifications and skills and training standards that require a reassessment in order to better adjust to the sector's needs.
- The workers must change their attitude related to this new situation. E-commerce is a business opportunity and the ones that get specialized in this area will certainly improve their employability.
- We assist to a lack of ICT training in schools. The students learn the general ICT skills (Word, Excel...), but this is not enough and sometimes when they enter to the labor market this competences are already outdated.

ANNEX II

Results from Quantitative Research

I - Results from Employers Questionnaire

Part A: General information about Companies and Employers

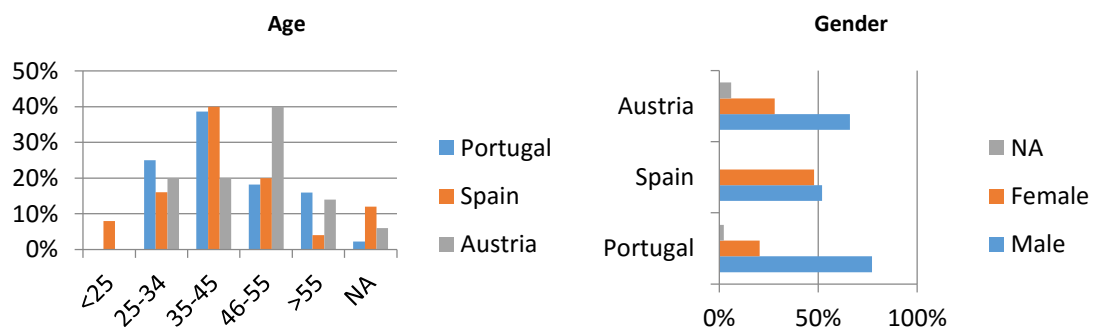
Portugal made a survey to a significant number of companies through the affiliated CCP Associations and obtained 44 responses. Austria and Spain have reached 50 responses from the enterprises they have.

I - Employers Information

1.1. Age and Gender

Regarding age and gender, the majority of respondents in Portugal and Spain are located in the age group between 35 and 45 years old, and are mostly male employers. The employers respondents from Austria have between 46 and 55 years old and they are, mainly, man.

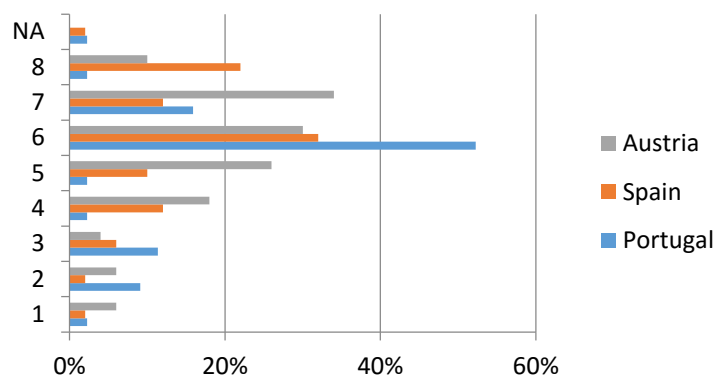
Charts 26 and 27 - Distribution by age and gender (employers respondents)



1.2. Qualification Levels

Concerning qualification levels, most part of the surveyed entrepreneurs have educational qualifications, equivalent to level 6 or 7 of the National Qualifications Catalogue, as shown in chart 28. These values, that somehow contradict what was previously mention regarding the level of qualification of the majority of the persons employed in the commerce sector, are associated, for example in the Portuguese case, with the number of entrepreneurs in the pharmaceutical industry who were invited to participate in this study.

Chart 28 - Qualification Levels

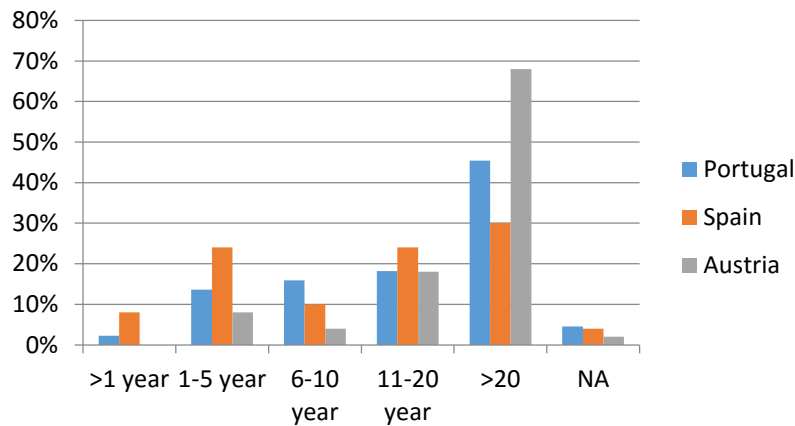


II – Enterprise information

2.1. Company existence in the market

As we can see in chart 29, most part of the companies have been working in the market for 21 years or over.

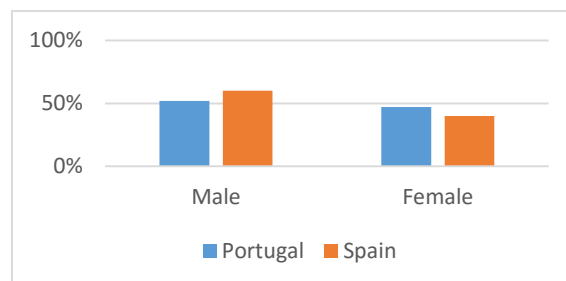
Chart 29 - Time of Stabishment



2.2. Persons employed by gender

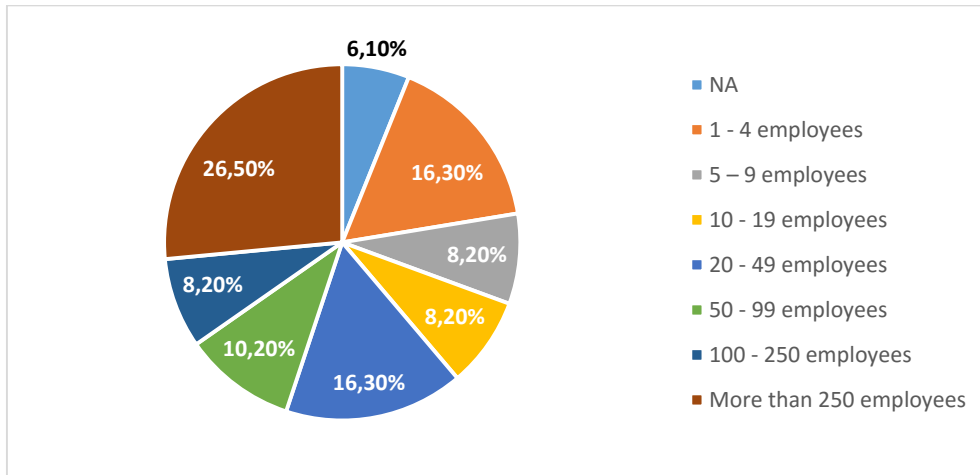
According to the answers given, 52% of the respondents was male and 47% was female in Portugal, and about 60% of male and 40% of female employees in Spain.

Chart 30 - Persons Employed by gender (Portugal and Spain)



Austria didn't specify the gender of the respondents, but shows the proportions of employees by size of enterprise. Most part of enterprises included in this research are large, with more than 250 employees (26,5%), as we can see in the chart bellow, micro and small companies represent 16,30%.

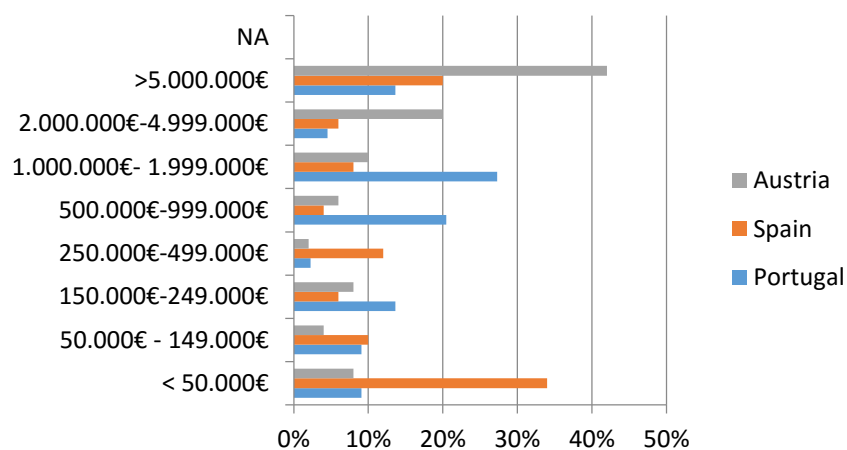
Chart 31 - Persons Employed by size of enterprise (Austria)



2.3. Turnover

The overwhelming majority of the Portuguese respondents claims to have a turnover corresponding to a range of 1 000 000.00€ to 1 999 000.00€. Austria and Spain have different situations regarding this tool, in the first case the turnover correspond to 5 000 000€ and more and in the second close to a range of <50 000€.

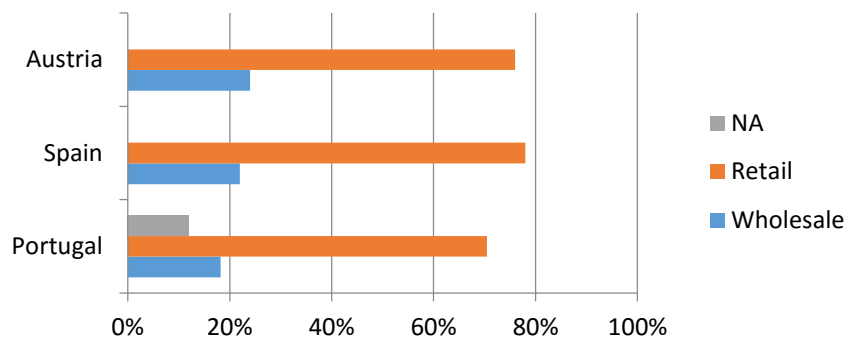
Chart 32 - Annual Turnover



2.4. Sector of Activity

About 80% of the enterprises surveyed frame their activity in the subsector of retail and just 20% classified themselves as wholesale companies. The chart 33 highlight the sub-sectors of activity where the companies of this survey are framed.

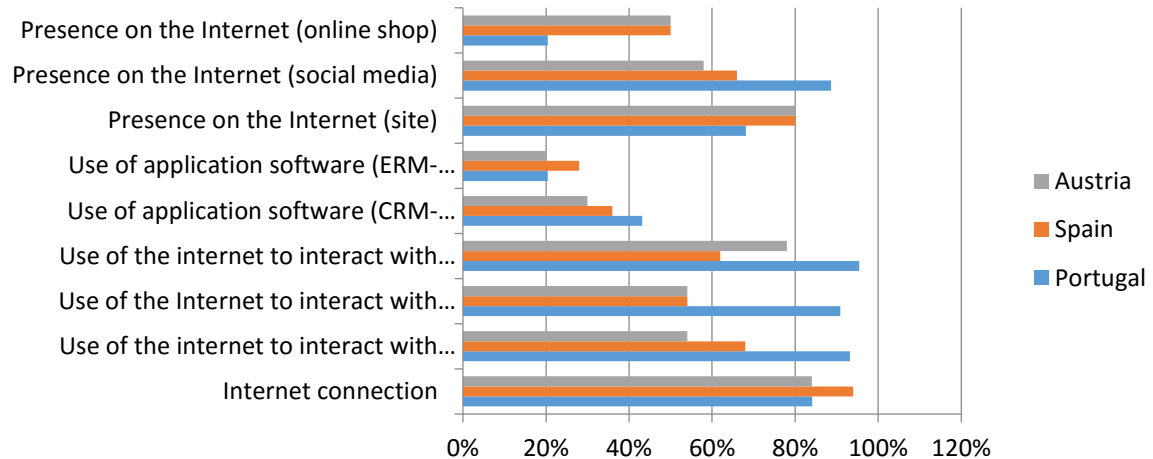
Chart 33 - Distribution by Sector of Activity



2.5. Use of new Information and Communication Technologies (ICT)

Regarding the use of ICT, especially the use of Internet, in general, the surveyed companies have a strong adhesion to this tool. In Portugal it is used especially, in order to communicate with suppliers (95%) and interact with clients (93%). However, it is confirmed that only 20% of the enterprises have an Internet presence through online stores and use ERP application software, beside only 43% use CRM software. About Austrian surveyed enterprises, we can see that the majority has a presence on the Internet, use internet to interact with clients and has one internet connection. Concerning the surveyed companies from Spain, we observe a large percentage of enterprises with an internet connection and presence on internet.

Chart 34 - Type of use given to ICT by the companies surveyed



Part B: General Development of the Sector and Companies

1 - Digital challenges triggered by "digital era"

The questionnaire addressed to companies asked them to identify the main challenges that have been triggered by the digital era, both for companies and for the sector. The charts shown below illustrate the factors that, in recent years, constituted a challenge for the surveyed enterprises. Respondents from Portugal and Spain recognize, specially, as the greatest challenge the occurrence of changes in the behaviour and the needs of consumers (64%: Portugal companies, 68%: Portugal sector; 36% Spain companies, 64% Spain sector). About Austrian companies, they identify as the main challenge for the sector "more competitiveness" and for companies the "change in occupations". However, in Austrian companies, we observe a quite similar percentage in all factors mentioned.

Chart 35 – General overview of the sector: challenges encountered

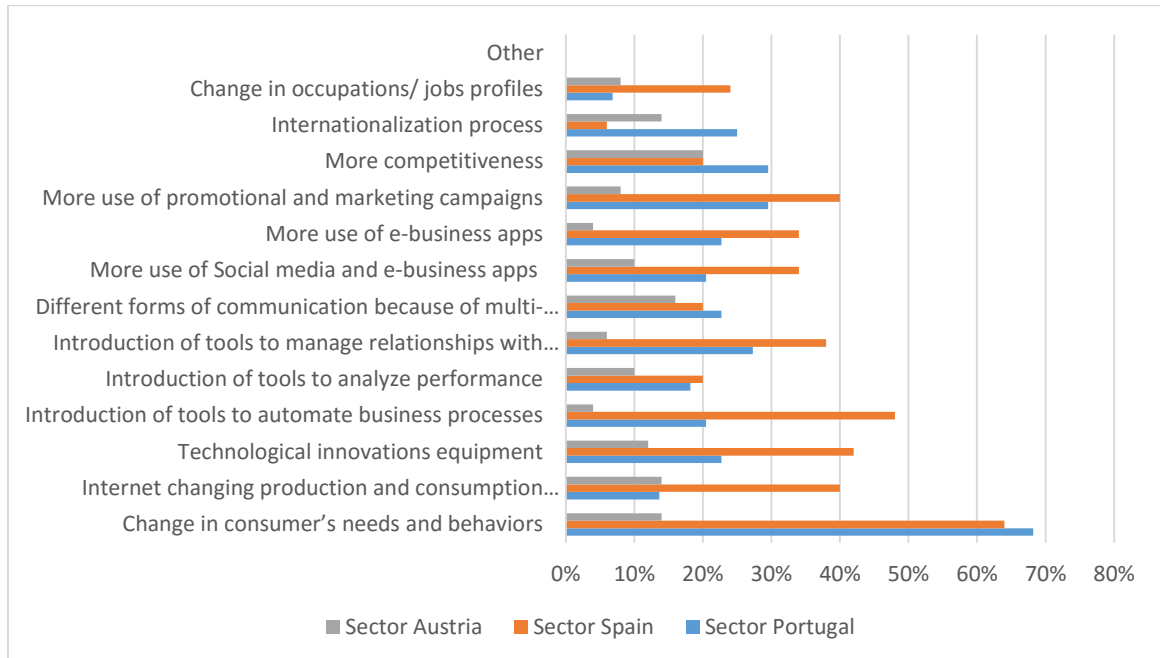


Chart 36 – General overview of the companies: challenges encountered



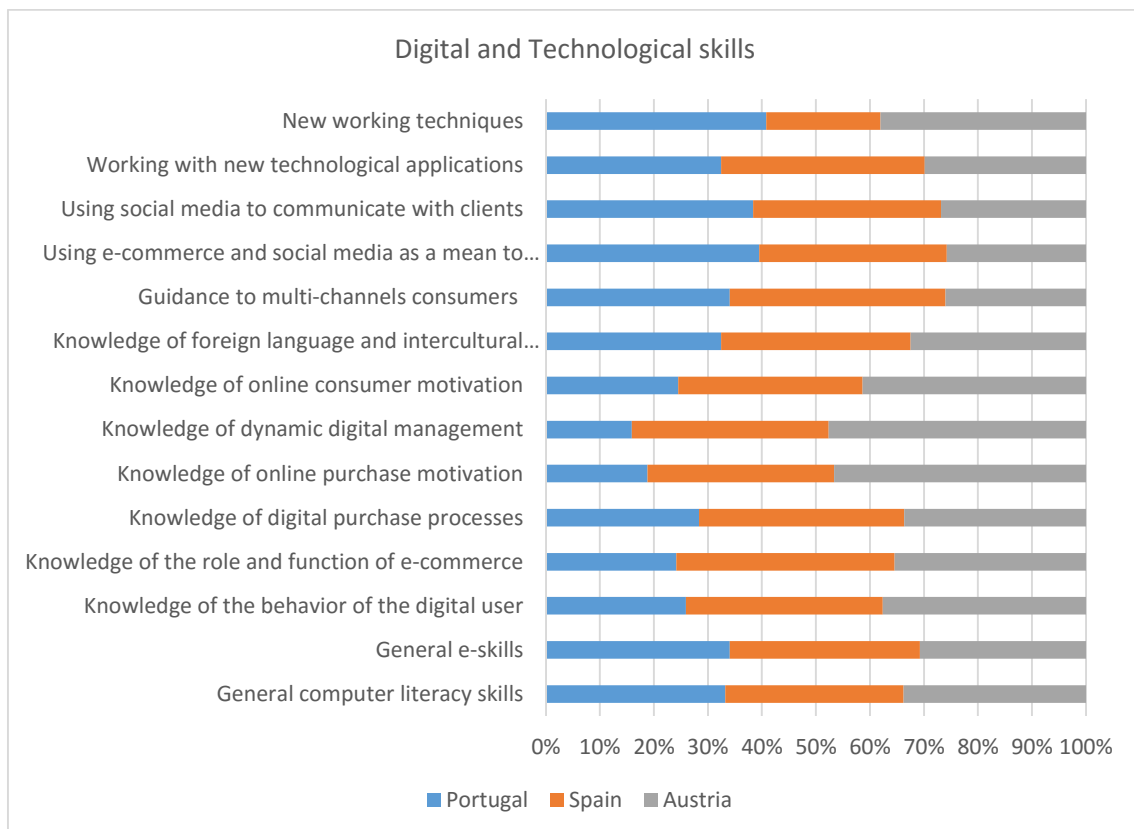
2 – ICT skills currently existing in enterprises

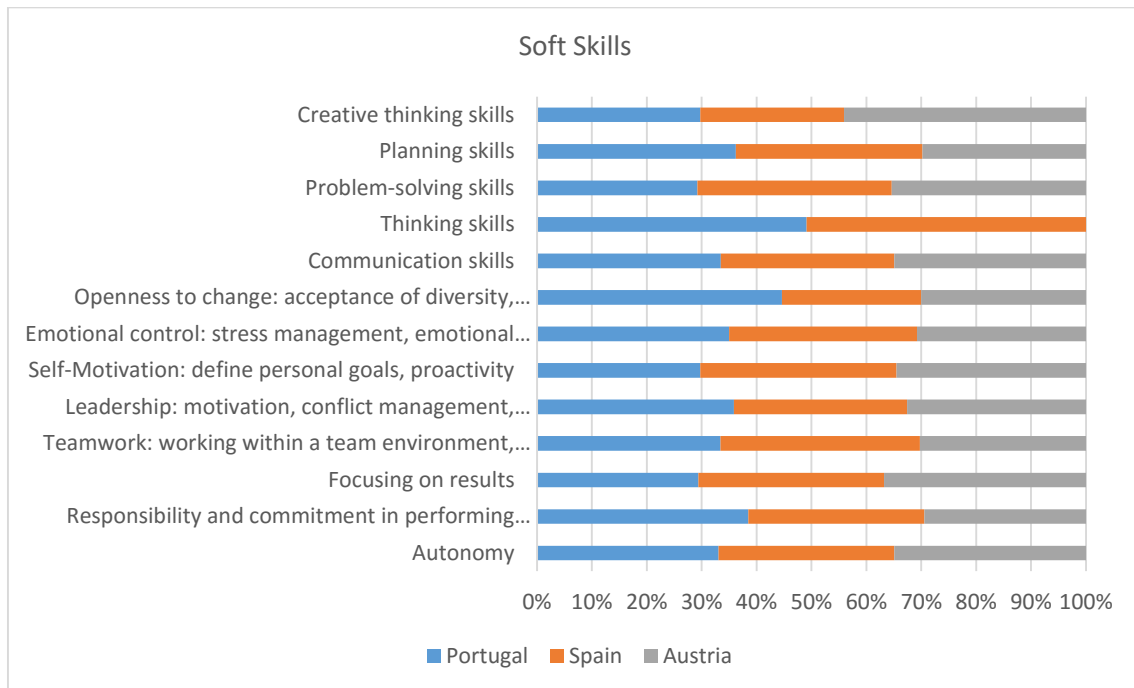
2.1. Digital Skills / Technological and Attitudinal skills

The identified challenges, whether in companies or in the sector, resulting from the current technological advancement, led to a gradual adjustment of enterprises that should develop appropriate digital and attitudinal skills.

Therefore, and as we can see through the chart 37, the skills developed by the companies surveyed in recent years, were general digital skills (91% in Portugal; 94% in Spain; 82% in Austria) and basic computer skills (89% in Portugal; 88% in Spain; 90% in Austria). Concerning the development of Soft Skills, we can see through the chart 38, and for three countries, the relevance given to the sense of responsibility and commitment to the execution of assigned tasks (86% in Portugal; 72% in Spain; 66% in Austria) and also to the teamwork (77% in Portugal; 84% in Spain; 70% in Austria).

Charts 37 and 38 – Current skills considering the sector evolution





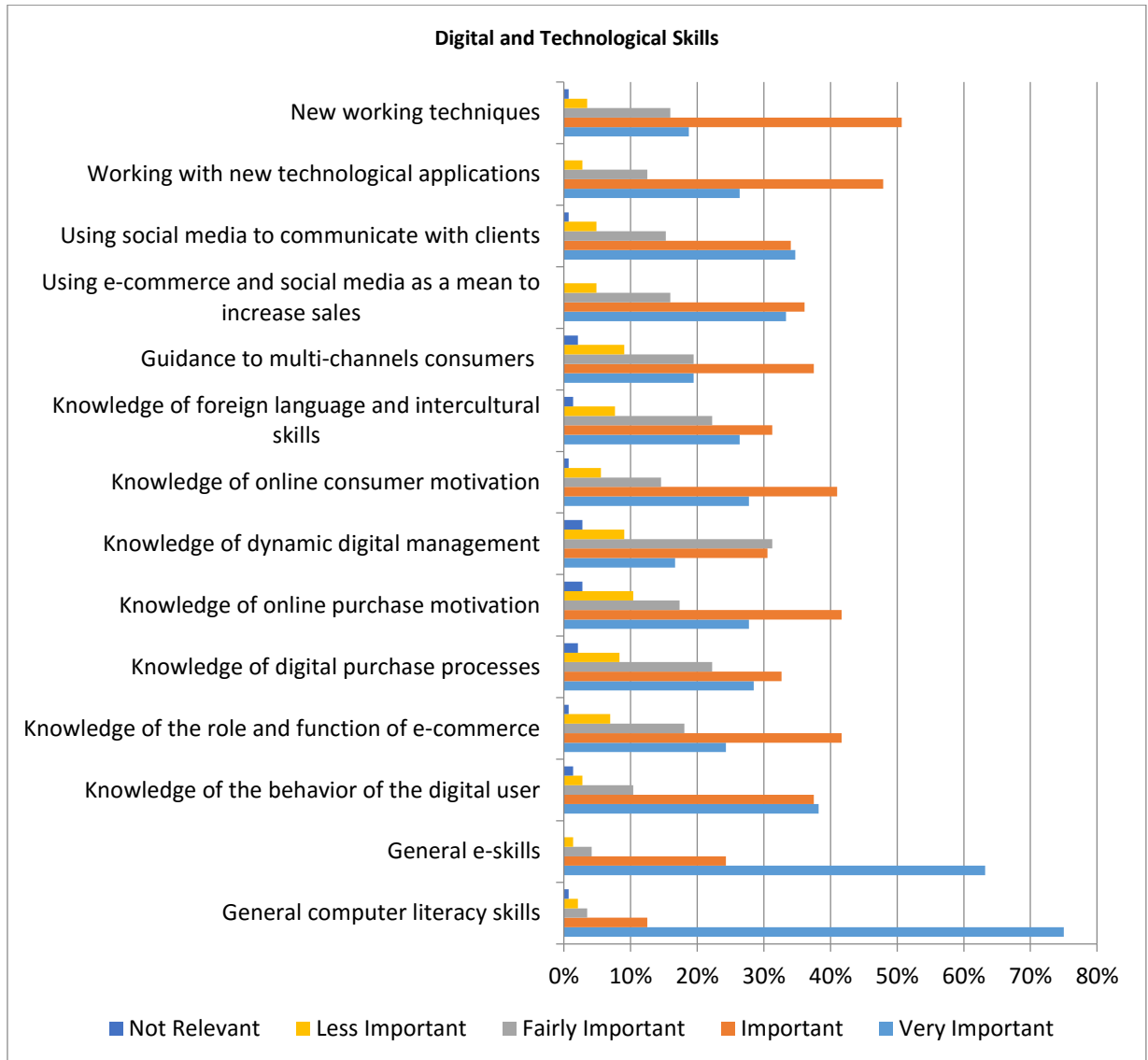
3. Importance of new skills taking into account the evolution of the sector

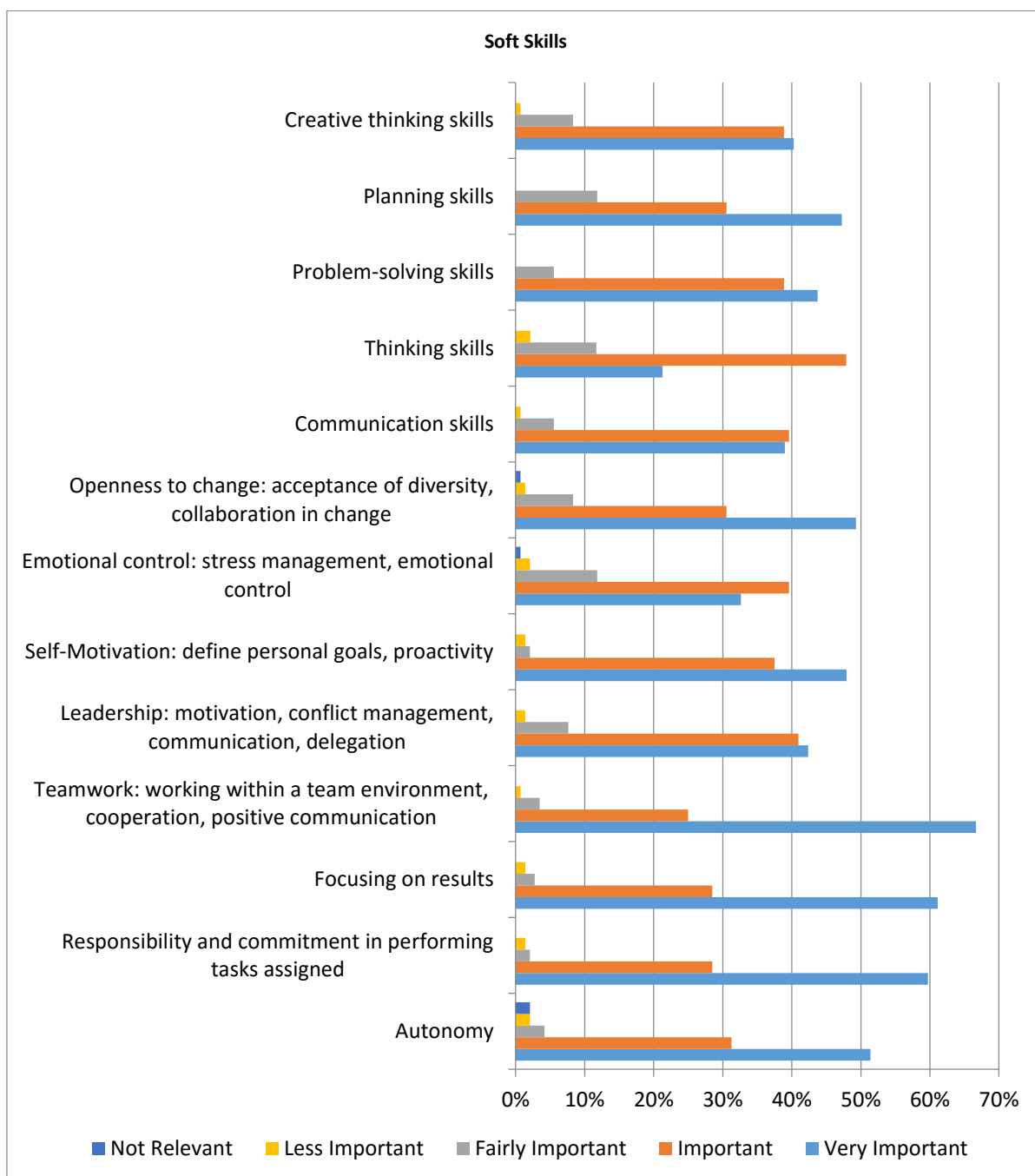
3.1. Digital Skills / Technological and Attitudinal skills

Bearing in mind the challenges faced by companies concerning the development of skills arising from the rapid technological advancement, the respondents from the three countries involved in this research considered as "Very Important" the investment in basic computer skills, such as "knowing how to use the computer, its most common software and internet" as well as general digital competence, such as "knowing how to use, in general, information and communication technologies" (chart 39).

With respect to attitude change, it was considered very important to develop skills related with teamwork, focus on results and responsibility and commitment to assigned tasks (see chart 40).

Charts 39 and 40 – Importance of new technologies in the the sector evolution point of view

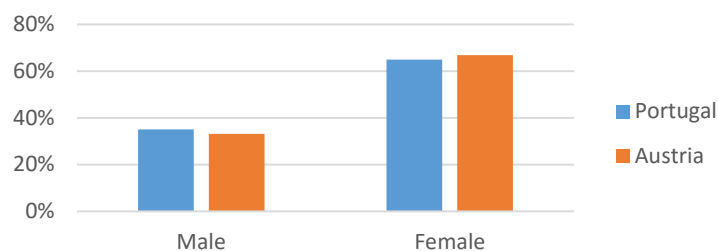




4 – Persons employed with expertise in e-commerce, by gender

The chart 41 shows the proportion of people with skills in e-commerce, by gender. As we can see both countries presented have a similar reality about this tool, and the majority of persons with this kind of skills are female.

Chart 41 – Employees in Electronic Commerce area, by gender (Portugal, Austria)²⁵

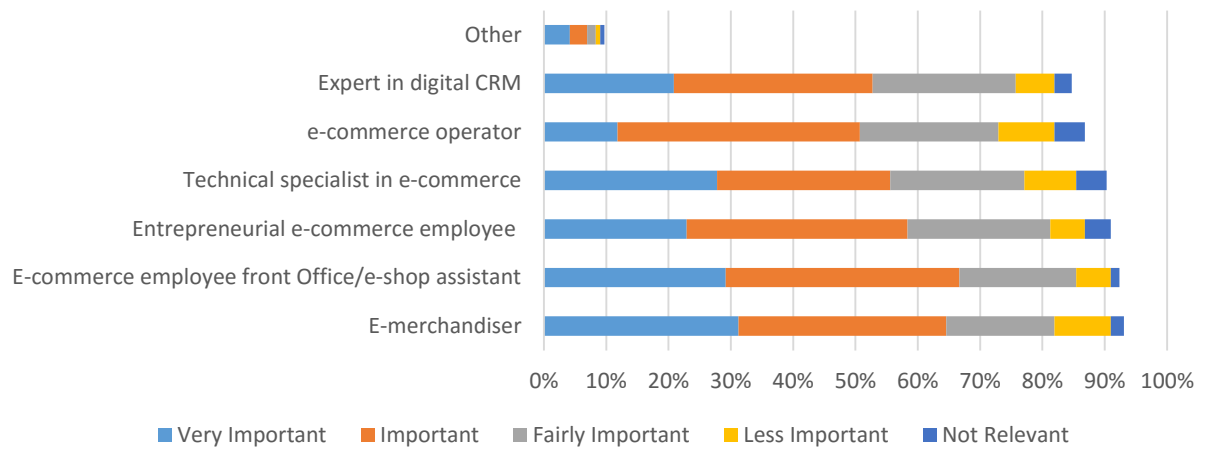


5 – Functions / relevant emerging professions for business competitiveness (short term)

The companies were also asked to indicate the type of emerging occupations related to the challenges faced by the sector when their companies integrate ICT in their daily activity. The vast majority pointed out "e-merchandise" as one of the occupations / professions more relevant to the adequacy of the sector to its digital presence, also "CRM specialist" was indicated as one of the most important occupations for the sector (Chart 42).

²⁵ It was not possible to analyse this information from Spain.

Chart 42 – New Occupations taking into account the challenges identified



II - Results from Employees Questionnaire

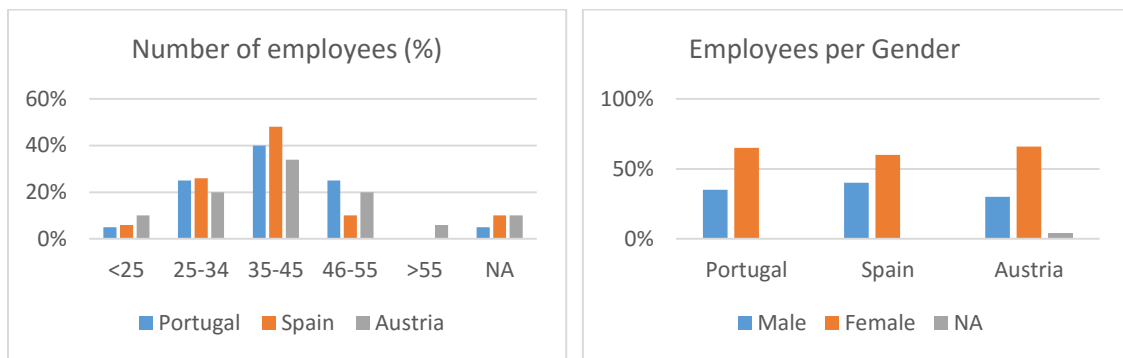
Part A: General information of the Employee and the Company

I – Employee Information

1.1. Age and gender of respondents

The survey was addressed to a group of employees of the commerce sector (20 responses were achieved by Portugal; 50 by Spain and 50 by Austria) and through the characterization of this group of respondents, we find out that the vast majority (40%) had between 35 to 45 years old and were female (about 60%) (charts 43 and 44).

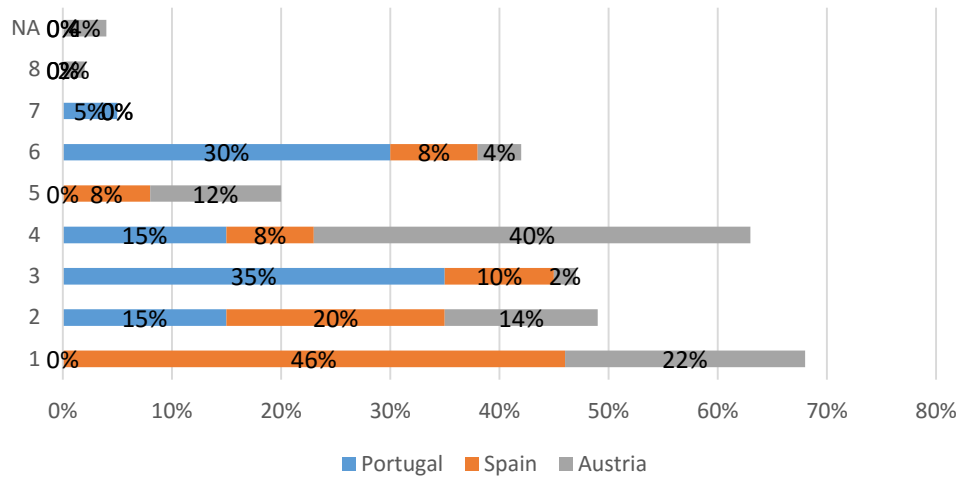
Charts 43 e 44 – Age and gender



1.2. Qualification level

As far as qualifications levels are concern, 35% of Portuguese respondents have a level 3 of qualification, according to National Qualifications Framework (NQF), followed by level 6 (30%); 66% of Spanish respondents have level 1 and 2 of qualification and 40% of Austrian respondents have level 4 of qualification, followed the level 1 (22%).

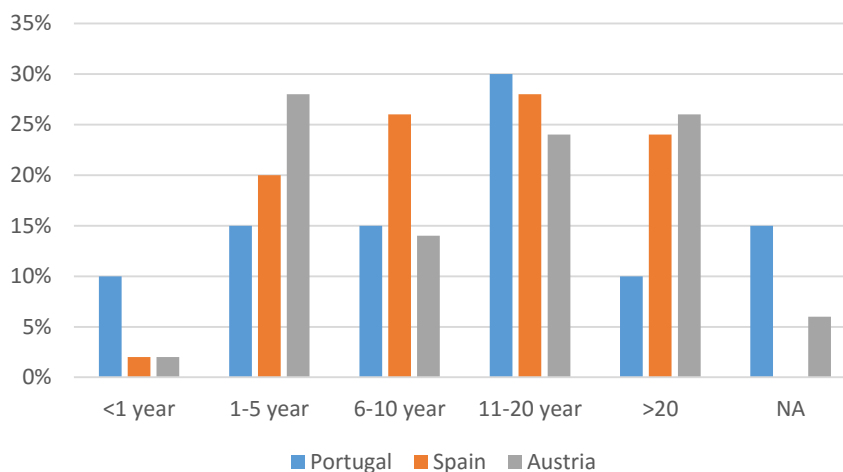
Chart 45 – Qualification level (according to the EQF)



1.3. Years of work in the enterprise

When asked about the period of permanency in the company where respondents are at the moment, it appears that most of them work in the same establishment for more than 11 years and less than 15, excepting Austrian respondents, who claim that work in the same establishment for more than 1 year and less than 5.

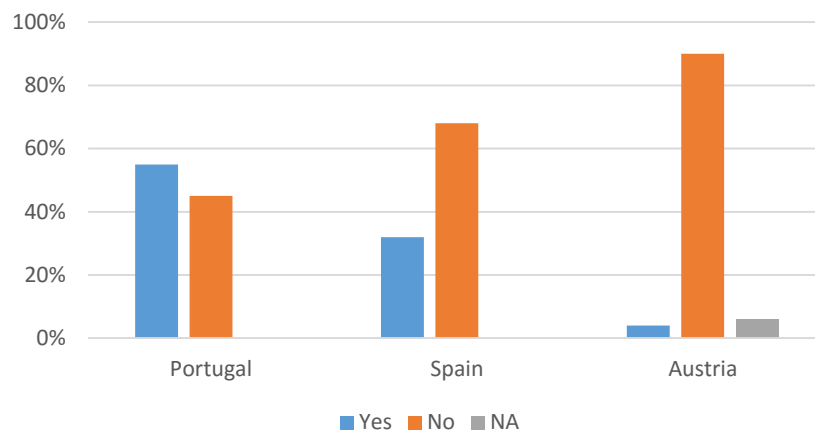
Chart 46 – Work in the enterprise (years)



1.4. Function performed in ICT

An interesting fact, of this survey directed to employees, is related to the functions exercised in ICT. As we can see in the chart below, the Portuguese respondents correspond to the majority of workers with this functions (55%), followed by Spanish, with 32%.

Chart 47 – Function performed in ICT

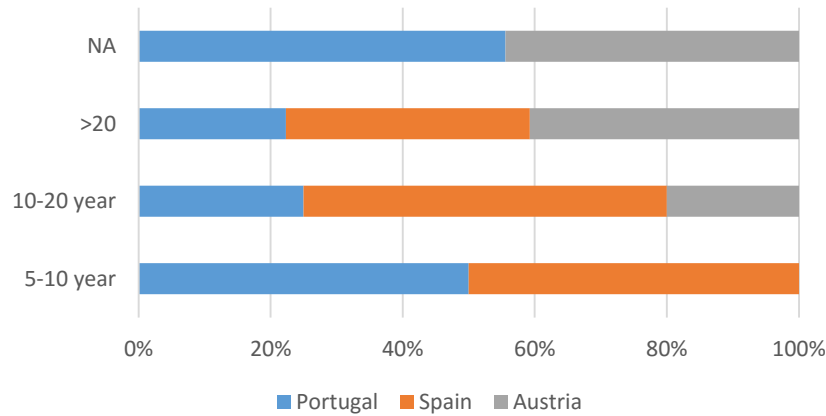


II – Enterprise information

2.1. Time of Establishment

To the question related to the period of time companies are in the market, we found out that a large percentage have not completed 10 years of existence, nevertheless it is noted that most of the respondents from Portugal and Spain did not answer this question.

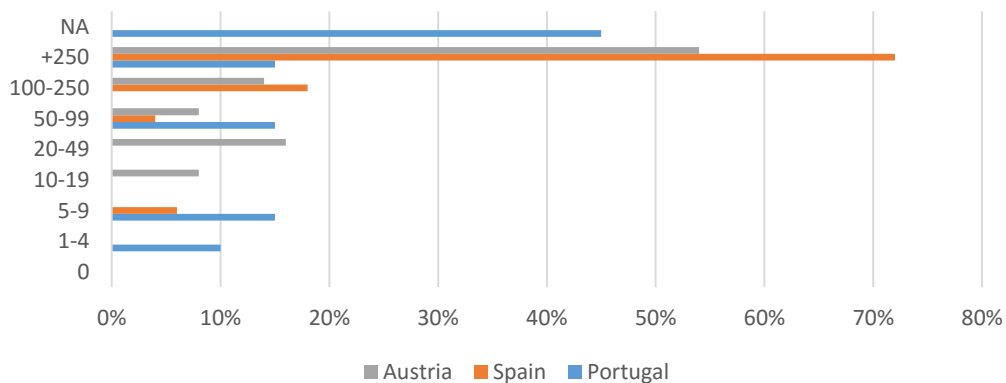
Chart 48 - Time of Establishment



2.2. Persons employed

Considering the knowledge that respondents hold about their company, 15% of the Portuguese respondents said that their companies are micro and 15% are medium; 72% of Spanish respondents mentioned that their companies are large and 54% of Austrian respondents also conclude for a large companies.

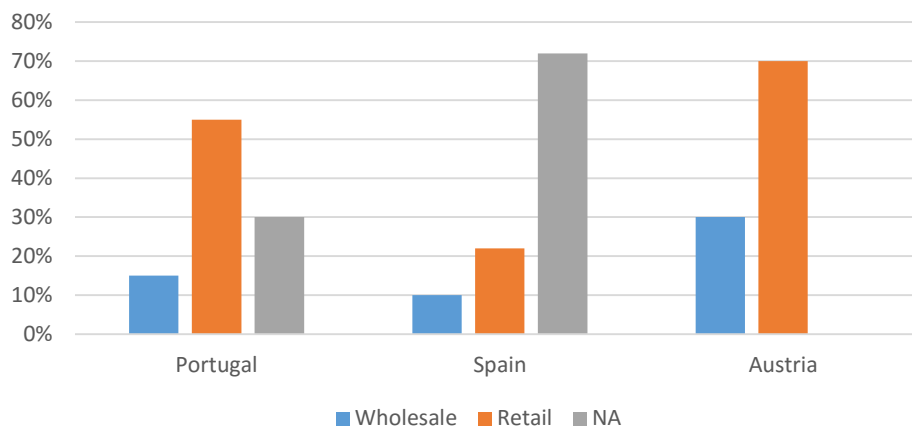
Chart 49: Persons employed



2.3. Sector of Activity

As regards to business sector, the majority of the companies in question have an activity framed in the subsector of retail. Be noted the lack of response from 15% of the Portuguese respondents and 72% of Spanish.

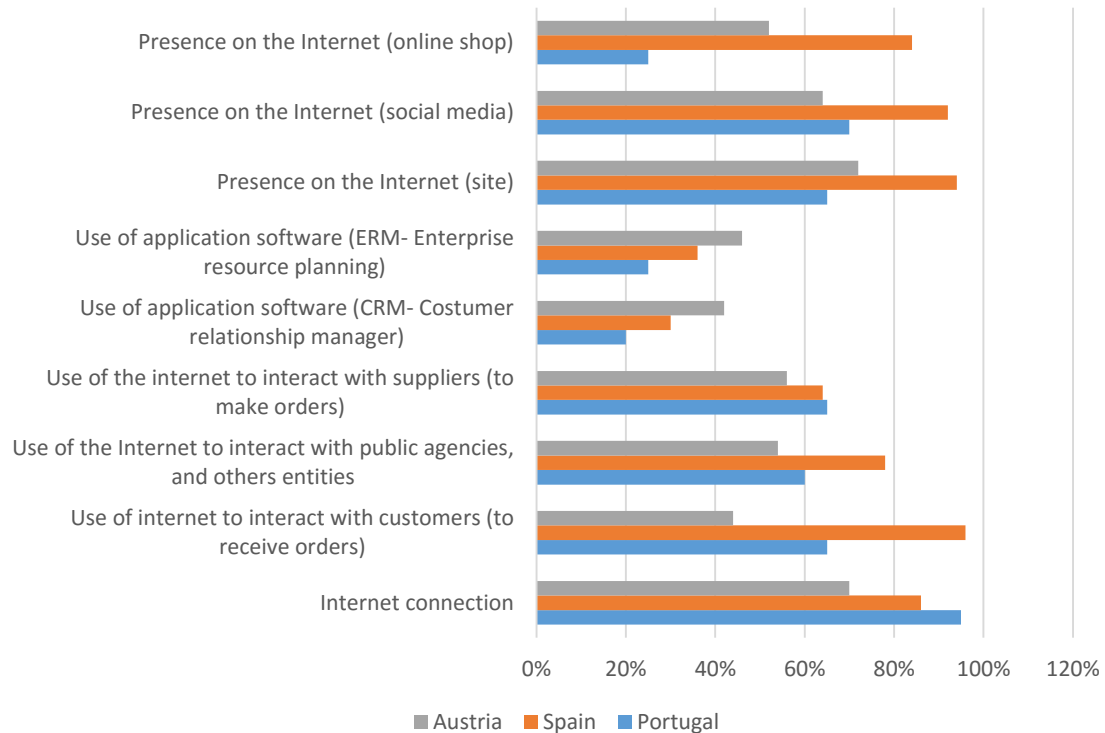
Chart 50 – Distribution by Sector of Activity



2.4. Use of Information and Communication Technologies

Moving on to an analysis about the use of ICT by companies in the perspective of its employees, we find out an almost complete adherence to internet, since more than 70% said that they have an internet connection, also emphasizing a presence on internet through social media (more than 64%). The use of CRM and ERP software had percentages of around 40% and less, continue to figure as key indicators with less expression in this companies.

Chart 51 – Distribution by Sector of Activity



Part B: Existing ICT skills or to develop

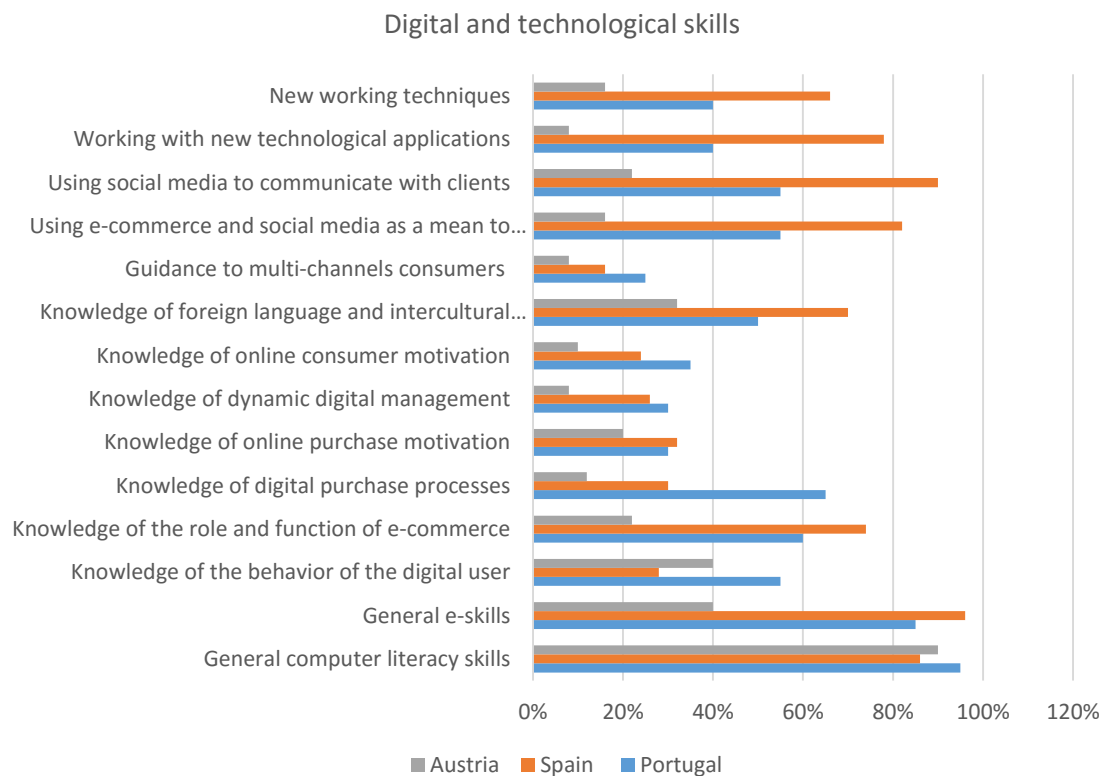
1 – ICT skills currently existing in enterprises

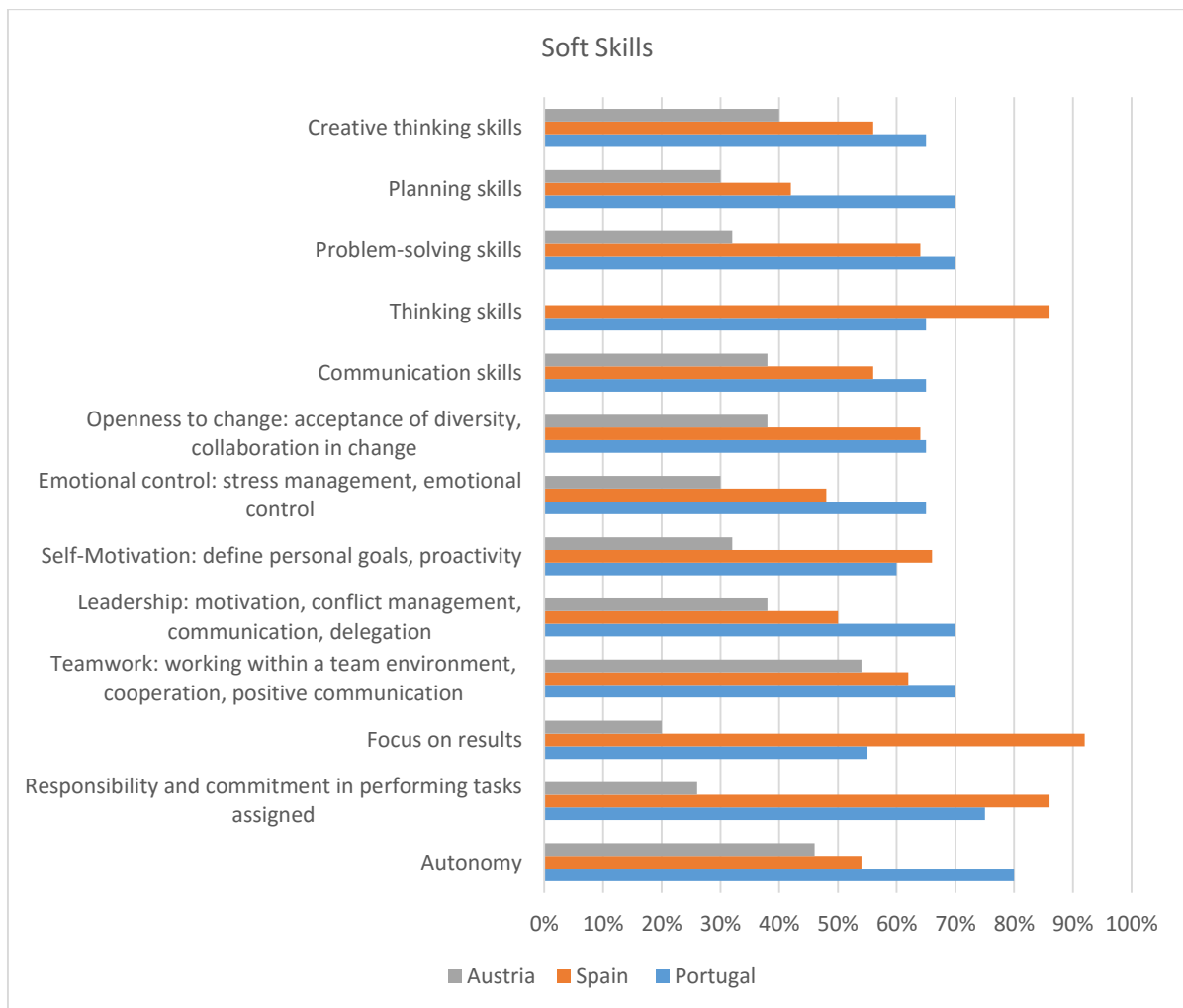
1.1. Digital Skills / Technological and Attitudinal skills

With regard to the existence of digital skills that companies need nowadays, it was possible to conclude through the employee's survey, a strong investment in the development of basic computer skills, as well as in digital skills (Chart 52), which corroborates the information obtained in the inquiry made to employers.

Concerning soft skills, in general, they were widely highlighted by the respondents, with percentages above 55%, however, we can see a focus on autonomy (Chart 53).

Charts 52 and 53 – Distribution by Sector of Activity





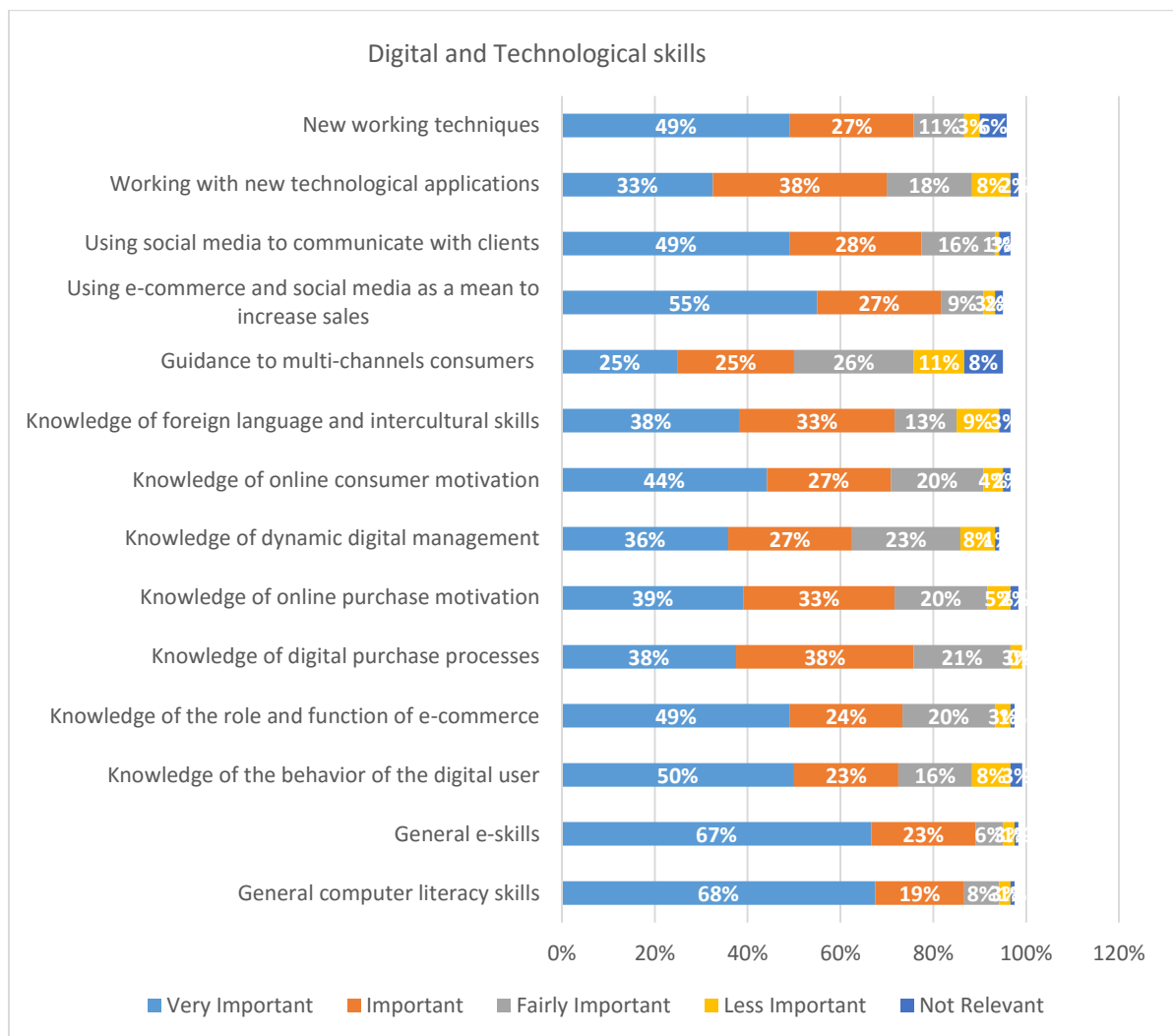
2 - Importance of new skills taking into account the evolution of the sector

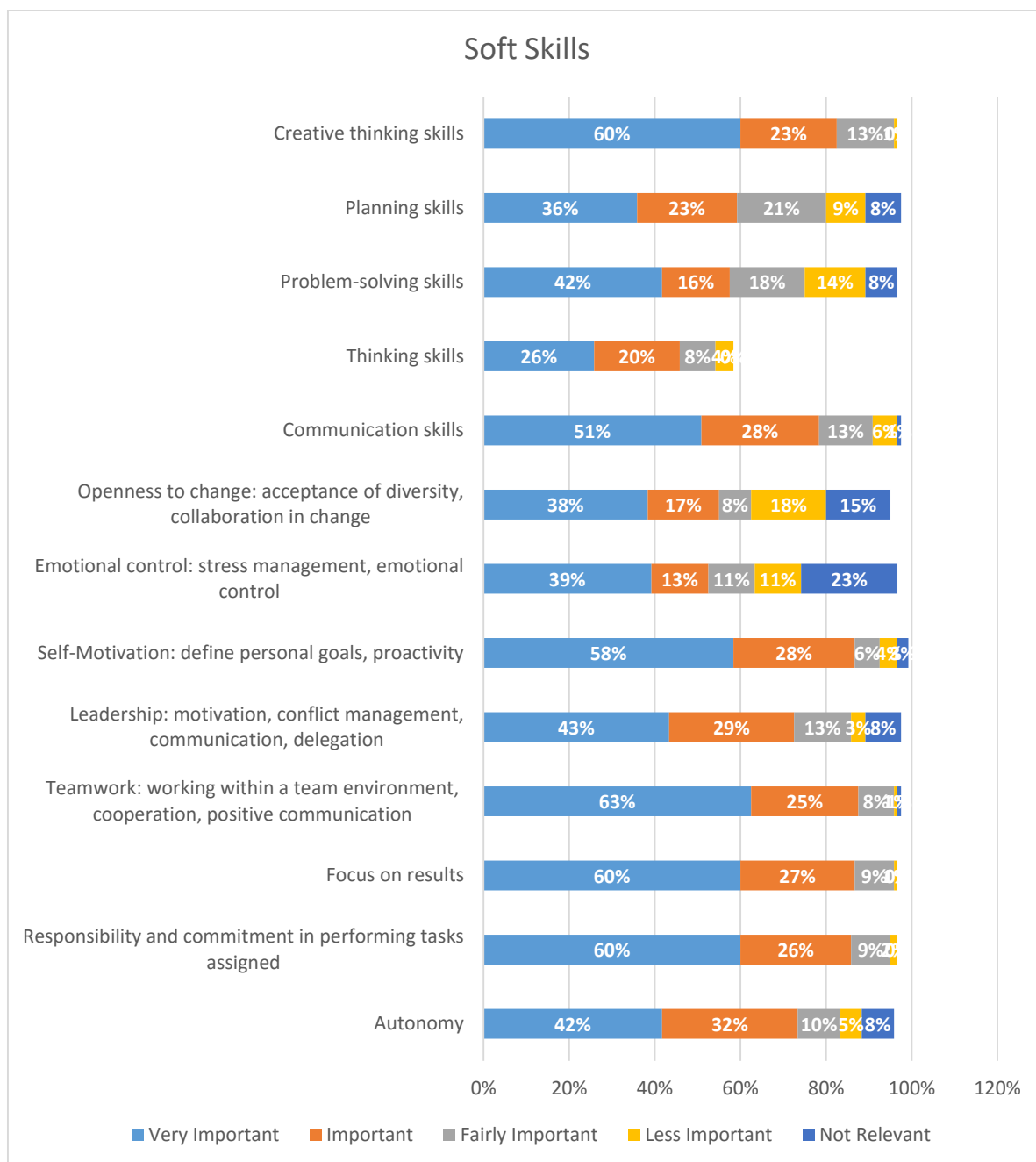
2.1. Digital / Technological Skills and Soft Skills

By analysing the importance given to the development of new digital skills, and taking into account the evolution of the sector and the respective company, it was considered by the respondents as key skills, the ones related to general computer literacy skills (68%) and general e-skills (67%), followed by the increase in use of e-commerce and social media as a mean to communicate with clients (55%).

When checked the degree of relevance assigned to skills, in a perspective of changing attitudes, it was considered by the respondents as key, the factors related with teamwork (63%), followed by creative thinking skills, focus on results and responsibility and commitment with the perform tasks assigned (60%).

Charts 54 and 55 – The importance of new skills taking into account the evolution of the sector / company





ANNEX III

Skills Gap Questionnaires (WP2)

I – Employers Questionnaire

50 questionnaires

E-commerce is increasing every day, offering major new opportunities in many ways for business and has dramatically changed consumer's behavior and expectations, as they increasingly use mobile devices to shop. For traders, e-commerce offers new possibilities to interact with costumers and to serve them through different channels and platforms.

Electronic commerce or e-commerce refers to a type of business model that enables a firm from retail and wholesale commerce sector to conduct business through Internet.

The ALL-ECOM project will focus on a category of e-commerce that operates in the market segment of business to consumer (B2C). The B2C model focuses on direct selling and marketing between a business and a consumer via an e-commerce website.

The ALL- ECOM project will be mainly focused on the business to consumer category as it aims to increase the level of information and understanding about all the possibilities that E-commerce can bring to the commerce in the participating countries.

In the context of this study, we consider that the current commerce is, above all, a connected commerce. This is a commerce where the dynamic relationship between the presence on the internet, the physical space, the participation in social networks and the use of mobile communications exists at a combined way and establishes relations between these different components.

ALL-ECOM is a project that seeks to address the challenge of skills and competencies imbalance within the commerce sector by improving commerce human resources' qualifications in E-commerce through the integration of new technologies in the strategy of both retail and wholesale commerce and ensure harmonization at national and European level of standards of qualifications and skills in the E-commerce sector.

This questionnaire is directed to employers from the commerce sector (wholesale and retail) and has the objective to gather information that will sustain a national report about skills gap and training offer and innovative learning methods in E-commerce.

The questionnaire is confidential and it will be used only for the purpose of the current study.

Please read all the questions carefully and in case you need further information you can get in contact with (email/telephone contacts).

A: General information about enterprise and employer

I- Employer's Information

1- Contact (email and phone number):

2- Age

3- Gender

Male	<input type="checkbox"/>
Female	<input type="checkbox"/>

4- Level of Qualification (according to the European Qualifications Framework). Check only the last level acquired.

NOTE: To become this question clear, in the translation process, each country should give the correspondence to their national qualifications level, instead of using the European description of the levels as it is now.

1	Basic general knowledge	<input type="checkbox"/>
2	Basic factual knowledge of a field of work or study	<input type="checkbox"/>
3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	<input type="checkbox"/>
4	Factual and theoretical knowledge in broad contexts within a field of work or study	<input type="checkbox"/>



ALL-ECOM

5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	
6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	
7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research Critical awareness of knowledge issues in a field and at the interface between different fields	
8	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	

II- **Enterprise's information**

1. Name of the enterprise (optional)

2. Indicate the year when the company was established

3. Indicate the number of persons employed (year 2014). Check the correct range, indicate the number of employees and the % per gender.

	Nº	female in %	male in %
No employees (just the employer)			
1 to 4 employees			
5 to 9 employees			
10 to 19 employees			
20 to 49 employees			
50 to 99 employees			
100 to 250 employees			
More than 250 employees			



- 4- What is approximately the annual turnover of your enterprise (year 2014). Check only the adequate option.

Less than 50.000 €	
50.000/ 149.000 €	
150.000/ 249.000 €	
250.000/ 499.000 €	
500.000/ 999.000 €	
1.000.000/ 1.999.000€	
2.000.000/ 4.999.000 €	
More than 5.000.000€	

- 5- Please, indicate what is the set of activities in your enterprise?

If you can't categorize your enterprise in any of the sectors mentioned, indicate only whether it is a wholesale or a retail enterprise.

NACE

Wholesale	
Wholesale on a fee or contract basis	
Wholesale of agricultural raw materials and live animals	
Wholesale of food, beverages and tobacco	
Wholesale of house hold goods	
Wholesale of information and communication equipment	
Wholesale of machinery , equipment and supplies	
Other specialised Wholesale	
Non-specialised wholesale trade	
Retail	
Retail sale in non-specialised stores	
Retail sale of food, beverages and tobacco in specialized stores	
Retail sale of automotive fuel in specialized stores	
Retail sale of ICT equipment in specialized stores	
Retail sale of other household equipment in specialized stores	
Retail sale of cultural and recreation goods in specialized stores	
Retail sale of other goods in specialized stores	
Retail sale via stalls and markets	

6. For what purpose does your enterprise make use of ICT? Check all the applicable options.

Internet connection	
Use of internet to interact with customers (to receive orders)	
Use of the internet to interact with public agencies, and others entities	
Use of the internet to interact with suppliers (to make orders)	
Use of application software (CRM- Customer relationship manager)	
Use of application software (ERM- Enterprise resource planning)	
Presence on the Internet (site)	
Presence on the Internet (social media)	
Presence on the Internet (online shop)	

B: General evolution of the sector and the enterprise

- 1- What are in your opinion the main digital challenges in the short term (next 1-3 years) for your sector and for your enterprise? Select per column not more than 5 important challenges.

<u>Challenges “Important/ Very important” (short term: 1/3 years)?</u>		
	Sector	Enterprise
Changes in consumer’s needs and behaviors		
Internet changing production and consumption patterns (e-business;		
Technological innovations equipment		
Introduction of tools to automate business processes		
Introduction of tools to analyze performance		
Introduction of tools to manage relationships with customers and suppliers		
Different forms of communication because of multi-channel consumers		
More use of social media and e-business apps		
More use of e-business apps		
More use of promotional and marketing campaigns		
More competitiveness		
Internationalization process		
Changes in occupations/ jobs profiles		
Others (identify):		



ALL-ECOM

- 2- Considering the challenges you mentioned for your enterprise, please indicate the **digital and soft skills that you already have** among the staff of your enterprise. Check all the applicable options.

<i>The already existing skills in your enterprise</i>	
Digital and technological skills	
General computer literacy skills	
General e-skills	
Knowledge of the behavior of the digital user	
Knowledge of the role and function of e-commerce	
Knowledge of digital purchase processes	
Knowledge of online purchase motivation	
Knowledge of dynamic digital management	
Knowledge of online consumer motivation	
Knowledge of foreign language and intercultural skills	
Guidance to multi-channel consumers	
Using e-commerce and social media as a mean to increase sales	
Using social media to communicate with clients	
Working with new technological applications	
New working techniques	
Soft Skills	
Autonomy	
Responsibility and commitment to perform tasks assigned	
Focus on results	
Teamwork: working within a team environment, cooperation, positive communication	
Leadership: motivation, conflict management, communication, delegation	
Self-Motivation: define personal goals, proactivity	
Emotional control: stress management, emotional control	
Openness to change: acceptance of diversity, collaboration in change	
Communication skills	
Thinking skills	
Problem-solving skills	
Planning skills	
Creative thinking skills	



ALL-ECOM

- 3- Considering the challenges you mentioned for your enterprise (question B.1.), please indicate the importance of **digital and soft skills** among your enterprise staff.

<i>The importance of new skills concerning the evolution of the sector/enterprise ?</i>					
	Very important	Important	Fairly important	Less Important	Not relevant
Digital and technological skills					
General computer literacy skills					
General e-skills					
Knowledge of the behavior of the digital user					
Knowledge of the role and function of e-commerce					
Knowledge of digital purchase processes					
Knowledge of online purchase motivation					
Knowledge of dynamic digital management					
Knowledge of online consumer motivation					
Knowledge of foreign languages and intercultural skills					
Guidance to multi-channel consumers					
Using e-commerce and social media as a mean to increase sales					
Using social media to communicate with clients					
Working with new technological applications					
New working techniques					
Soft Skills					
Autonomy					
Responsibility and commitment to perform tasks assigned					



ALL-ECON

The importance of new skills concerning the evolution of the sector/enterprise ?					
	Very important	Important	Fairly important	Less Important	Not relevant
Focus on results					
Teamwork: working within a team environment, cooperation, positive communication					
Leadership: motivation, conflict management, communication, delegation					
Self-Motivation: define personal goals, proactivity					
Emotional control: stress management, emotional control					
Openness to change: acceptance of diversity, collaboration in change					
Communication skills					
Thinking skills					
Problem-solving skills					
Planning skills					
Creative thinking skills					

4- Indicate the number of person employed in e-commerce or ICT in your enterprise (year 2014).

Occupation/ Job description	Number of employees	male	female

5- Taking into account the challenges you mentioned for your enterprise (question B.1.), please indicate what are the new occupations you find relevant to emerge.



ALL-ECOM

Relevant for enterprise competitiveness (short term)				
Occupations/ jobs description	Very important	Important	Fairly important	Less Important
E-merchandise				
E-commerce employee front Office/e-shop assistant				
Entrepreneurial e-commerce employee				
Technical specialist in e-commerce				
e-commerce operator				
Expert in digital CRM				
Others (identify all and give a brief description)				

Thanks!

II – Employees Questionnaire

50 questionnaires

E-commerce is increasing every day, offering major new opportunities in many ways for business and has dramatically changed consumer's behavior and expectations, as they increasingly use mobile devices to shop. For traders, e-commerce offers new possibilities to interact with costumers and to serve them through different channels and platforms.

Electronic commerce or e-commerce refers to a type of business model that enables a firm from retail and wholesale commerce sector to conduct business through Internet.

The ALL-ECOM project will focus on a category of e-commerce that operates in the market segment of business to consumer (B2C). The B2C model focuses on direct selling and marketing between a business and a consumer via an e-commerce website.

The ALL- ECOM project will be mainly focused on the business to consumer category as it aims to increase the level of information and understanding about all the possibilities that E-commerce can bring to the commerce in the participating countries.

In the context of this study, we consider that the current commerce is, above all, a connected commerce. This is a commerce where the dynamic relationship between the presence on the internet, the physical space, the participation in social networks and the use of mobile communications exists at a combined way and establishes relations between these different components.

ALL-ECOM is a project that seeks to address the challenge of skills and competencies imbalance within the commerce sector by improving commerce human resources' qualifications in E-commerce through the integration of new technologies in the strategy of both retail and wholesale commerce and ensure harmonization at national and European level of standards of qualifications and skills in the E-commerce sector.

This questionnaire is directed to employees of enterprises from the commerce sector (wholesale and retail) and has the objective to gather information that will sustain a national report about skills gap and training offer and innovative learning methods in E-commerce.

The questionnaire is confidential and it will be used only for the purpose of the current study.

Please read all the questions carefully and in case you need further information you can get in contact with (email/telephone contacts).

A: General information about enterprise and employee

III- Employee's Information

5- Contact (email and phone number):

6- Age

7- Gender

Male	<input type="checkbox"/>
Female	<input type="checkbox"/>

8- Level of Qualification (according to the European Qualifications Framework). Check only the last level acquired.

NOTE: To become this question clear, in the translation process, each country should give the correspondence to their national qualifications level, instead of using the European description of the levels as it is now.

1	Basic general knowledge	
2	Basic factual knowledge of a field of work or study	
3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	
4	Factual and theoretical knowledge in broad contexts within a field of work or study	
5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	



ALL-ECOM

6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	
7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research Critical awareness of knowledge issues in a field and at the interface between different fields	
8	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	

9- What are the number of years that you work in the current enterprise?

10- Do you have a job on ICT area or at e-commerce area?

Yes	
No	

If yes, please say what is your occupation and give a short description of that

If so, can you indicate what qualifications you have to practice that profession?



IV- Enterprise's information

4. Name of the enterprise (optional)

5. Indicate the year when the company was established

6. What is the number of employees currently working at your enterprise? Check the correct range, indicate the number of employees and the % per gender

	Nº	female In %	male In %
No employees (just the employer)			
1 to 4 employees			
5 to 9 employees			
10 to 19 employees			
20 to 49 employees			
50 to 99 employees			
100 to 250 employees			
More than 250 employees			

6- Please indicate what is the set of activities in your enterprise? Check only the correct option.

If you can't categorize your enterprise in any of the sectors mentioned, indicate only whether it is a wholesale or a retail enterprise.

NACE

Wholesale	
Wholesale on a fee or contract basis	
Wholesale of agricultural raw materials and live animals	



ALL-ECOM

Wholesale of food, beverages and tobacco	
Wholesale of house hold goods	
Wholesale of information and communication equipment	
Wholesale of machinery , equipment and supplies	
Other specialised Wholesale	
Non-specialised wholesale trade	
Retail	
Retail sale in non-specialised stores	
Retail sale of food, beverages and tobacco in specialized stores	
Retail sale of automotive fuel in specialized stores	
Retail sale of ICT equipment in specialized stores	
Retail sale of other household equipment in specialized stores	
Retail sale of cultural and recreation goods in specialized stores	
Retail sale of other goods in specialized stores	
Retail sale via stalls and markets	

5. For what purpose does your enterprise make use of ICT? Check all the applicable options. Check all the correct options.

Internet connection	
Use of internet to interact with customers (to receive orders)	
Use of the internet to interact with public agencies, and others entities	
Use of the internet to interact with suppliers (to make orders)	
Use of application software (CRM- Customer relationship manager)	
Use of application software (ERM- Enterprise resource planning)	
Presence on the Internet (site)	
Presence on the Internet (social media)	
Presence on the Internet (online shop)	

B: Skills gap

6- Considering the main digital challenges that jobs will have in the future, please indicate **digital and soft skills that you already have**.

<i>The importance of existing skills concerning the evolution of the sector/enterprise ?</i>	
Digital and technological skills	
General computer literacy skills	
General e-skills	
Knowledge of the behavior of the digital user	
Knowledge of the role and function of e-commerce	



ALL-ECOM

<i>The importance of existing skills concerning the evolution of the sector/enterprise ?</i>	
Knowledge of digital purchase processes	
Knowledge of online purchase motivation	
Knowledge of dynamic digital management	
Knowledge of online consumer motivation	
Knowledge of foreign language and intercultural skills	
Guidance to multi-channels consumers	
Using e-commerce and social media as a mean to increase sales	
Using social media to communicate with clients	
Working with new technological applications	
New working techniques	
Soft Skills	
Autonomy	
Responsibility and commitment to perform tasks assigned	
Focus on results	
Teamwork: working within a team environment, cooperation, positive communication	
Leadership: motivation, conflict management, communication, delegation	
Self-Motivation: define personal goals, proactivity	
Emotional control: stress management, emotional control	
Openness to change: acceptance of diversity, collaboration in change	
Communication skills	
Thinking skills	
Problem-solving skills	
Planning skills	
Creative thinking skills	

- 7- Considering the main digital challenges that jobs will have in the future, please indicate the degree of importance of **digital and soft skills that you indicate greater needs for** in short time future (1-3 years)

<i>The importance of the skills concerning the evolution of the sector/enterprise ?</i>					
	Very important	Important	Fairly important	Less Important	Not relevant
Digital and technological skills					



ALL-ECOM

<i>The importance of the skills concerning the evolution of the sector/enterprise ?</i>					
	Very important	Important	Fairly important	Less Important	Not relevant
General computer literacy skills					
General e-skills					
Knowledge of the behavior of the digital user					
Knowledge of the role and function of e-commerce					
Knowledge of digital purchase processes					
Knowledge of online purchase motivation					
Knowledge of dynamic digital management					
Knowledge of online consumer motivation					
Knowledge of foreign language and intercultural skills					
Guidance to multi-channels consumers					
Using e-commerce and social media as a mean to increase sales					
Using social media to communicate with clients					
Working with new technological applications					
New working techniques					
Soft Skills					
Autonomy					
Responsibility and commitment to perform tasks assigned					
Focus on results					



ALL-ECOM

<i>The importance of the skills concerning the evolution of the sector/enterprise ?</i>					
	Very important	Important	Fairly important	Less Important	Not relevant
Teamwork: working within a team environment, cooperation, positive communication					
Leadership: motivation, conflict management, communication, delegation					
Self-Motivation: define personal goals, proactivity					
Emotional control: stress management, emotional control					
Openness to change: acceptance of diversity, collaboration in change					
Communication skills					
Thinking skills					
Problem-solving skills					
Planning skills					
Creative thinking skills					

Thanks!