Profesionistas

INTRODUCTION

ANECDOTES

"In a candidate for a position I only need the person to have a good attitude; I will teach them everything else".

"One does not want to learn things that a computer knows how to do".

"I wish someone had told me these types of things before I chose a career".

"RECENT GRADUATES ARE VERY IMPATIENT. THEY WANT A GOOD POSITION AND A GOOD SALARY VERY FAST".

"I do not see in young people who graduate from the universities the same passion and hunger that those of our graduating class had".

"A young person must understand that his competency lies outside of and not within Mexico".

"In the first 30 seconds of the interview I already know whether I will hire the person or not.".

"THERE ARE GOOD TECHNICIANS, BUT WHAT THERE ARE NOT ARE GOOD PROJECT ADMINIS-TRATORS".

"It is easier for me to find a financial analyst than a good secretary."

"Instead of pre-paring the "lead-ers of tomorrow" it would be bet-ter to prepare good profes-sionals who are accomplished, intelligent, work-oriented, committed to their country".

"Young people have to make themselves over to the idea that throughout their career it is very probable that they will have to reinvent them-selves various times".

"Many young people waste various years of their life and an important amount of money studying things or developing skills that are not required by companies. Contrari-wise, if they had studied a technical major in less time and with less money they could have developed better skills".

"People who come from a technical school or technical career school have very good "hard" skills but they are not well prepared for positions of leadership and personnel and project coordination".

"Among those of us in my graduating class, no one works in what we studied; all of us work in different areas".

"I ONLY HIRE PERSONS IN PRIVATE UNIVERSITIES".

"I hire people according to their zip code".

"Young people come in with very high aspirations".

"In addition to teaching concepts to young people, they must be taught to work and to be responsible".

"I have been in recruiting for more than 20 years. While I have seen that now people come in better prepared in mathematics, in English they leave much to be desired".

"Young people had best choose their career path well; that is what they will be doing for the greater part of their life".

"I ONLY HIRE PERSONS IN PUBLIC UNIVERSITIES".

"It is less expensive for me to train and update employees that I already have than to contract recent graduates who supposedly know things but who do not know anything".

"Universities, above all the private ones, generate expectations of salary and responsibility that do not coincide with the reality".

"If at the age of 40 years you have not reached a management position or better and you are not a specialist in something, your future will be very complicated".

"I do not train my people because they ask me for a raise in salary".

"My best candidates for entry into training in my area (Systems) are cashiers in stores desirous of bettering themselves. It is easy to teach someone programming codes... it is impossible to teach someone to want to work".

"I DO NOT TRAIN MY PEOPLE BECAUSE THEY STEAL FROM ME".

INTRODUCTION

From the time we are very young we begin to learn things and develop competencies. We learn to walk, to speak, to eat, to ride a bicycle. Some are natural acquisitions and proper to our growth, while others are the product of our interests and decisions, such as speaking a foreign language, designing a calculus work sheet or playing the piano. It is precisely on the conscious or deliberate development of this latter type of competency that people eventually wager their personal and professional development.

As we grow, learning, or rather what is expedient to learn, ceases being clear and uniform, because not everyone acquires the same types of knowledge or develops the same of types of competencies.

While it is true that much of the unequal acquisition of competencies is due to not everyone having the same opportunities, many differences are due to that people simply choose in a different manner. In other words, while many people are unable to choose between enrolling in a private or in a public university, between these universities they can choose between studying, for example, a major in Engineering or one in Law Thus, some are inclined toward the arts while others toward the sciences; some study the mysteries of the universe while others pursue general knowledge on every theme; some learn for the mere interest and enjoyment in learning, while others learn with the purpose of getting a job. The results of all of this are that not all young people graduating from an Institute of Higher Learning (IHE) have the same competencies.

From the viewpoint of education, as well as that of society and economics, there is no doubt that to have a good quality of life level, to be a responsible citizen and to participate productively in the economy it is necessary to acquire knowledge and develop competencies. That is, from the focus of competitivity, to get ahead it is necessary to know things and to know *how to do* things, to adapt to changes in the world and even to anticipate the requirements of the productive processes.

There are many and very serious problems in our country. Education is a factor that is involved in the majority of these, whether as the cause, the aggravating circumstance or the possible solution. Notwithstanding this, or precisely due to its relevance, there have always been myriad polemics and disagreements surrounding the educative theme. There is questioning surrounding its scarce standardization or its lack of tangible results, and also as well on the types of themes that should be taught and how they should be taught, on what the educative experience should be, and on who should be those charged with or responsible for education, in public education or private education, on which competencies are innate and which can be developed, on how to score the performances of students and teachers, or on the role that the new technologies should play in teaching.

In this project we have decided to leave these debates to one side and to adopt a more pragmatic and empirical position. What we are attempting here is to analyze and answer a sole question: Is there or is there not in Mexico a gap between the competencies sought by companies and the competencies that are acquired by and that strengthen graduates from IHE? In other words, does our system of higher education offer or not offer the competencies required by the productive processes of the country?

To respond to this concern, what we have done is to analyze why, in the opinion of companies and industries, it is so difficult to find the talent and human capital that is needed for these companies to be more productive and competitive. On the other hand, from the perspective of graduates from IHE, we seek to understand why after studying an average of four and a half years (undergraduate degree studies, five years, and technical majors, from two to three years) and spending a considerable sum of money (the cost of an undergraduate degree at a private university can be more than one million Mexican pesos), these graduates do not find attractive, well-paid job options that allow them to put their knowledge and competencies into practice.

For example, according to data of the Confederation of National Chambers of Commerce, Services and Tourism (CONCANACO SERVYTUR) in Mexico, 55 of every 100 professionals do not work or do not find employment in the areas that they studied[1]. This number is equivalent to approximately four million professionals who work in areas distinct from their specialty.

The theme in work competencies has as its scenario the recent changes in the worldwide political and economic order and the phenomenon of globalization, and technological innovations have generated novel opportunities and challenges. In the particular ambit of higher education and of the employment of young people, the new technologies have created enormous opportunities but also very great challenges. On the one hand there is a large number of educative options and resources available, many of these at no cost, for acquiring knowledge and for developing competencies but at the same time the new technologies and globalization have created new dynamics inside and outside of companies and industries that have reduced employment options or that have, at the least, changed their conditions. In the past, technology and the creation of increasingly sophisticated machinery and software have replaced workers in industries where jobs are repetitive, thus substitutable by technology. The employment positions most vulnerable to this type of replacement are marginally complicated jobs in industries such as in manufacturing and in some areas of the services sector.

On the other hand, technology has also created work opportunities, because there is a need for professionals who maintain, develop, and perfect these new tools and systems. The occupations that have benefited from technological innovation are mainly highly qualified ones, such as software engineers, network administrators and app developers[2].

In this new order there is something that remains constant. Young people enroll in an IHE seeking to learn concepts and to develop competencies, while companies contract employees based on the knowledge and competencies that these young people require for their work positions. In contrast with many of the dogmas, myths, prejudices and stereotypes that encompass education, the existence of supply and demand is a fact and, as demonstrated by our study, the existence of a gap between both also is. Within this context, much attention is aroused concerning the lack of communication and cooperation between companies and IHE, something that this study also finds. Above all because –as

1 Ivonne Vargas, "La mitad de los profesionistas no ejerce"/One Half of Professionals Do Not Work in Their Field, *CNN Expansión*, October 6, 2011, available at: (http://www.cnnexpansion.com/mi-carrera/2011/10/05/la-mitad-de-los-profesionistas-no-ejerce).

2 Bernard Condon and Paul Wiseman, "AP IMPACT: Recession, Tech Kill Middle-Class Jobs", *Associated Press*, January 23, 2013.

INTRODUCTION

our data show- companies believe that young graduates do not have the competencies necessary for their integration into the labor market. However, the companies do not communicate their perception of this lack of knowledge to the young people emerging from IHE in order for the latter to be able to compensate for or redesign their study plans to acquire this very knowledge.

On the other hand, IHE do not cooperate sufficiently with companies, because they could establish a closer re-lationship in order to know which the most relevant competencies are in the labor market at a given time, thus better preparing their students. Ironically, while in the last several decades the search for greater efficiency and productivity has given rise to the integration and creation of highly profitable synergies along many productive chains, we have not observed the occurrence of this in terms of human capital. This is unfortunate, because greater cooperation between industry and IHE is, as argued in this study, indispensable for diminishing the competency gap and for reducing unemployment among young people.

We find ourselves in a "new economy" and in a "new work dynamic" in which, in a manner more or less clear, people are evaluated and contracted based on the competencies that they possess. While some decades ago it was sufficient to have "any" university degree, in today's world, this is only, in the best of cases, a necessary condi-tion that infrequently guarantees access to an attractive, important, interesting and well-paying job. Of even more serious concern, once within a company, success and hierarchical ascent will be what will best explain the use, development and application of social and technical competencies.

Having a higher education exerts an impact at the micro level, that is, at the individual level, but it also entails important repercussions at the macro level, that is, for the country's economy and development. At the individual level, having a higher education is accompanied by salary benefits, because those with a university degree earn more than those who do not.[3] But having a higher education also has non-salary benefits. Professionals with a higher education enjoy better health on average and are less likely to suffer from obesity.[4]

At the macro level, the impact of qualified human capital is fundamental, because it defines in great measure the economic performance of a country or region. The economic growth as well as the development of a country is bound to the potential of its labor force. So it is that in countries that do not have workers who are sufficiently prepared and qualified for developing highly qualified positions, that is, the positions that furnish the country with the greatest growth and productivity, will fall behind.[5]

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3 OECD, *Education at a Glance* 2013, p. 130.

4 *Idem*, p. 148.

5 ILO, *A Skilled Workforce for Strong, Sustainable and Balanced Growth*, ILO, 2011.

Additionally, countries that have the mechanisms, resources and methodologies to develop competencies that are or that will be in demand by the market will not only have the human capital to grow economically, but will also have a better prepared society, a more participative society, and one with better quality of life indexes.[6]

Not all knowledge and not all competencies that countries require derive from the classroom. In fact, a large part of these come from experience[7]. In this regard, we have also investigated which competencies are developed during the first years of the graduates' work lives. Given the changing and innovative nature of the economy and the technological changes, it is difficult to sustain that knowledge that is in effect today will be equally relevant twenty years from now, so what is truly important would be to understand that the development and perfecting of competencies comprises continuous learning that takes place throughout the individual's work life. That is, educative systems and companies should provide spaces for workers to train and to emerge from learning institutions on distinct occasions to obtain learning and leading edge certification on a continuous basis.

In the case, again, of Mexico, it was with the purpose of analyzing the magnitude and nature of the gap between the supply and demand of competencies on which we focused in terms of evaluating which are, from the viewpoint of the companies, the most important competencies among young graduates from IHE. For this, we designed 18 matrixes that evaluate and compare competencies among each other and we interviewed 481 companies in the eight main economic sectors localized in the 32 states of the country.

Starting out from the premise that at present everything is connected and related, we have also investigated the link that exists or not between companies and industries with IHE or, failing this, the perception of companies concerning the benefits of a permanent and effective link-up between educational institutions and work centers. Through this we have been able to identify the main reasons why many young people are not selected for a job.

Our findings are important and justify a new orientation of the educative system and of work for young people; a focus less charged with the name given to a technical major, undergraduate degree, type of engineering degree or the IHE, and more with the type of competencies that should be obtained and developed throughout the course of a higher education. In this respect, the evidence that we have found suggests at least three lines to pursue: greater emphasis on higher education programs in the development of specific competencies, a major link-up between companies and IHE, and the generation of more and better information with regard to the competencies that companies require.

Finally, we believe that this project could be the first exercise of many, perhaps even more exhaustive, that would serve to provide the society and all of the actors involved with or affected by education, with increasingly more information on the human capital that the country requires. We perceive that the special potential of this project is that the resources for carrying out periodic exercises of this type already exist, because companies already invest time and monies in training (or re-training) their new employees; information exists and is ready to be collected, because the

6 OECD, *Towards an OECD Skills Strategy,* 2011.

7 Becker Gary, *Human Capital: A Theoretical and Empirical Analysis,* 1964.

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Human Resource areas in companies know that information is what they need and the job exchanges of the universities already know –in the majority of cases- because their graduates are rejected. And, in contrast with other themes in education that are either politicized or are, by nature, controversial, there are no "good" or "bad" actors, only actors who need more information for making more thoroughgoing decisions and to generate greater benefits for themselves and for the society.

Because of all of this, this project seeks to generate and share information on the competencies that, in the opinion of the companies, are the most important and the scarcest. The information that is presented in summarized form in this report can be consulted in depth at (www.Profesionistas.org.mx).

In the first chapter and very briefly we analyzed the current situation, in terms of coverage and quality, of education in our country. In the second chapter we described the causes and characteristics of the gap between the supply of and demand for competencies   existing in our country. In the third chapter we defined what is understood in this investigation by competency and we presented a list, by category, of the competencies evaluated. In the fourth chapter we presented the result of our investigation related with the employment situation of young people and with the practices of recruiting young people engaged in by the companies. In the fifth chapter we presented information on the link-up between companies and IHE. In the sixth chapter we grouped the most important and scarcest competencies that we found in our study by state. In the seventh chapter we presented the most and least important and most and least scarce competencies by area. In the eighth chapter we mentioned in timely fashion recommendations for the three actors: authorities, companies and IHE. Finally in the ninth chapter we presented the conclusions of the study. Two annexes can be found, the first with the description of the methodology that we employed, and the second, with data and more detailed information on the coverage and quality of education in our country.

1

**HUMAN CAPITAL
AND EDUCATION
IN MEXICO**

HUMAN CAPITAL
AND EDUCATION
IN MEXICO

Human capital is the cornerstone in the development of a country. It is necessary not only go grow economically, but also to accomplish this with quality, toward the inside (internal economy) as well as toward the outside (international economy). On the other hand, the recent changes in the world economy, such as the opening of international markets, growing economic globalization and the continuous acceleration of technological development, have challenged the capacity of societies to adapt, change, innovate and above all to be competitive[1].

It is within this context that the challenge is mapped of human capital, whose problematic can be summed up, in Mexico, in the following three points: (1) We need more prepared people; (2) We need better prepared people; and (3) We need better coordination between what Institutes of Higher Education (IHE) teach and companies and industries require.

Country	Value
Korea	63.82
Japan	58.7
Canada	56.7
Ireland	47.19
Great Britain	46.91
Norway	46.8
Luxembourg	46.64
New Zealand	46.04
Israel	45.04
Australia	44.61
United States	43.13
France	43.01
Sweden	42.86
Belgium	42.45
Chile	41.3
Holland	39.9
Switzerland	39.8
Island	39.37
Finland	39.37
Poland	39.2
Spain	39.15
Estonia	39.05
Average OECD	38.62
Denmark	38.58
Eslovenia	33.81
Greece	32.52
Hungary	28.1
Germany	27.67
Portugal	26.92
Czech Republic	25.13
Mexico	22.54
Austria	21.16
Italy	20.98
Turkey	18.87

Table 2.1 Worldwide comparison of Higher Education (HE) coverage rates. Various countries

Objective: Compare the enrollment rate in higher education
Source: OECD Stats (2010)
Units: Percentages

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1 CEDEFOP (European Centre for the Development of Vocational Training), 2010.

Table 2.2a Performance in Mathematics ENLACE

Objective: Evaluate the performance in mathematics of mexicans
Source: ENLACE
Units: Percentages

	Preschool 2011	Preschool 2007	3rd Elementary 2010	3rd Elementary 2006	6th Elementary 2009	6th Elementary 2007	Middle School 2008	Middle School 2006
Advanced	14	15	16	9	8	8	2	1
Average	27	27	34	31	24	27	19	18
Basic	50	49	18	20	56	50	27	30
Unsatisfactory	9	9	32	40	12	15	52	50

● Advanced   ● Average   ● Basic   ● Unsatisfactory
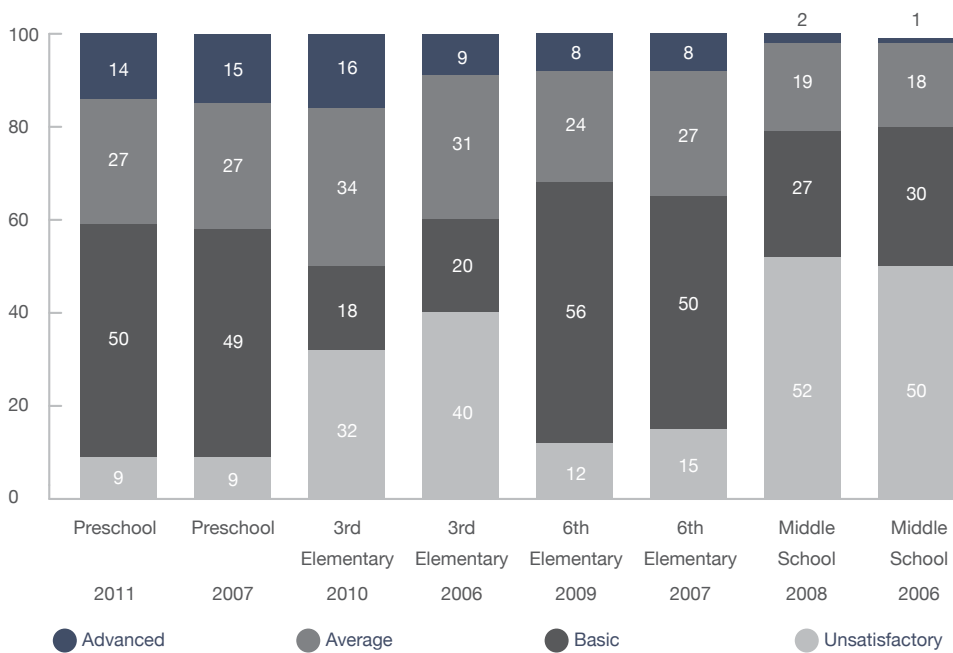
HUMAN CAPITAL AND EDUCATION IN MEXICO

Table 2.2b Performance in Spanish ENLACE

Objective: Evaluate the performance in Spanish of mexicans
Source: ENLACE
Units: Percentages

	Preschool 2011	Preschool 2007	3rd Elementary 2010	3rd Elementary 2006	6th Elementary 2009	6th Elementary 2007	Middle School 2008	Middle School 2006
Advanced	17	15	2	2	9	8	6	5
Average	43	31	19	17	29	29	22	23
Basic	42	45	59	56	48	49	36	40
Unsatisfactory	6	9	20	25	14	14	36	29

Legend: ● Advanced   ● Average   ● Basic   ○ Unsatisfactory

Table 2.2c Competences comparative Mexico vs World. PISA 2012

Objective: Compare the score in México
Source: PISA 2012
Units: Score

HUMAN CAPITAL AND EDUCATION IN MEXICO

Yes
26%

No
74%
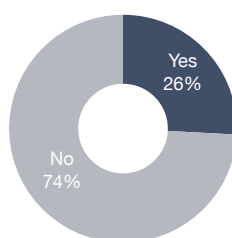
Table 2.3 - Table/data of the "gap" shown by our study

Objective: To know what is the magnitude of the labour gap in Mexico measured by the vacancies that have not been covered
Source: Survey CIDAC
Units: Percentages

*For more information on coverage and quality, Annex 2 may be consulted

The answer to this problematic goes further than the classroom. And this is because the concepts of "human capital" and "education" are not limited to the academic, in that not all knowledge and competencies derive from one's schooling; a great part of these, in fact, come from experience, on-the-job experience and the inductive learning experience in general. Thus, the years of schooling and of formative quality are indeed reflected in the future salary or success at wo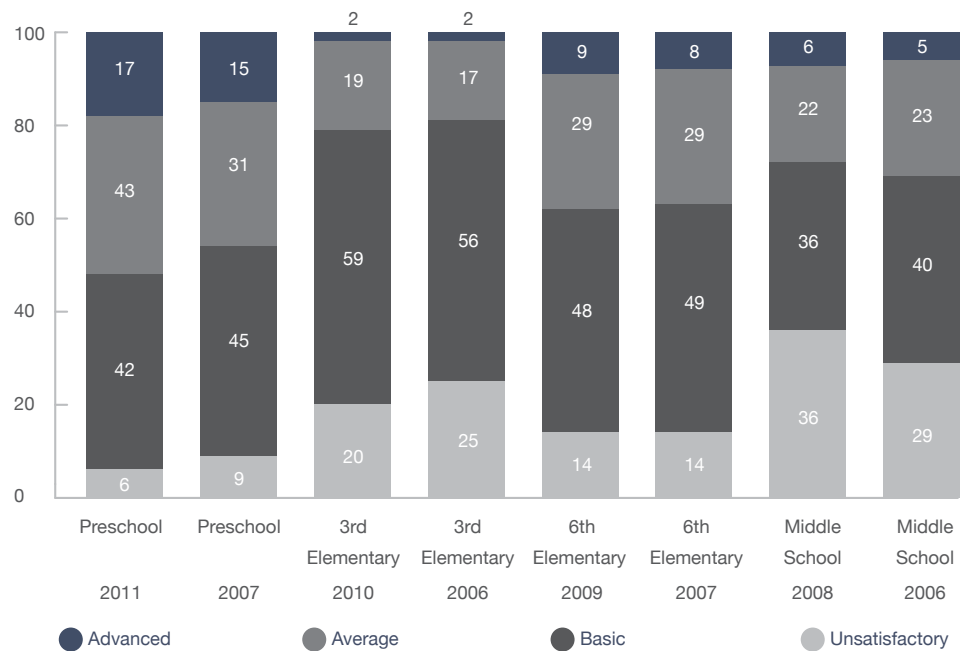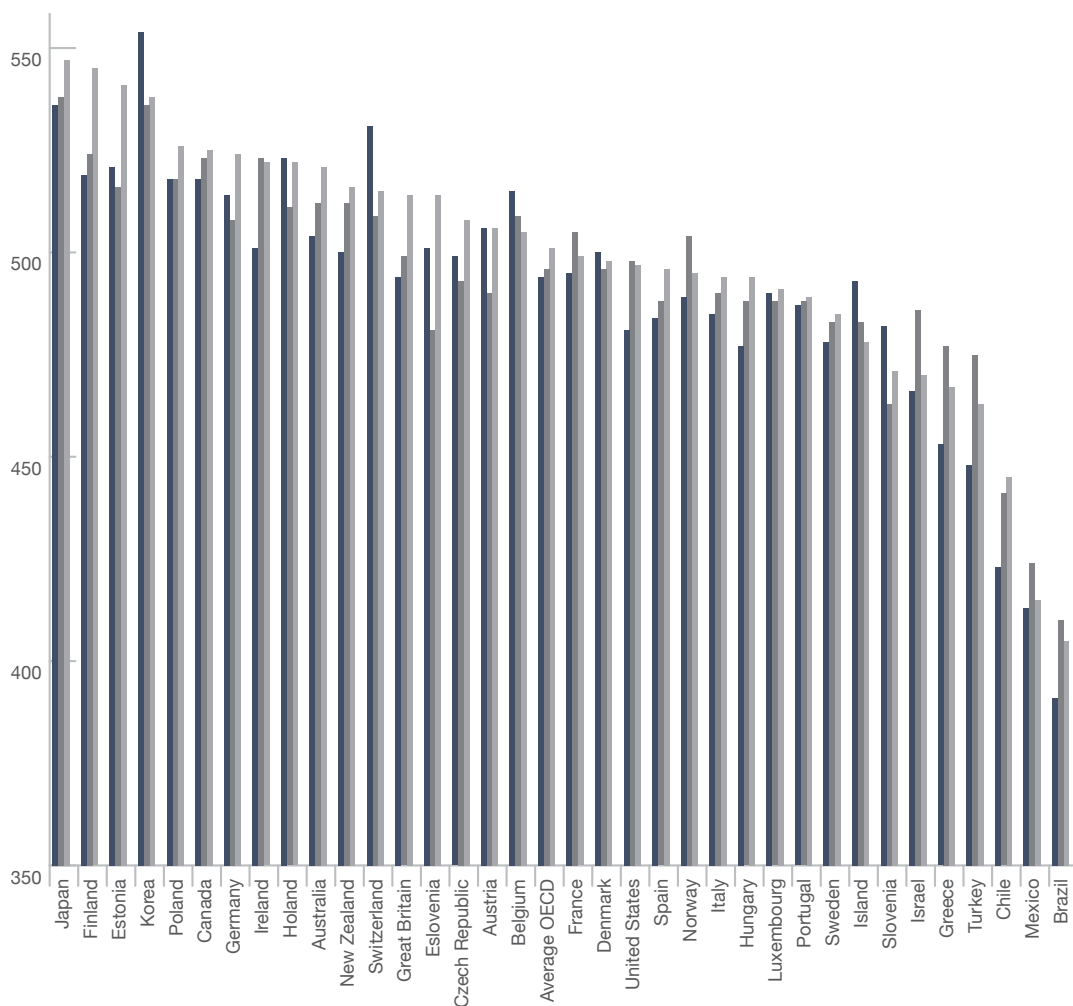rk of an individual, but also experience, motivation and the intensity of the effort of the latter exert an influence[2].

To the extent that, worldwide, economies, productive processes, societies and consumers have changed, so have the educative systems, but not to the same degree. As we explain in the next chapter, the resources and incentives that give rise to the technological changes are not the same as those that the educative systems and programs possess for adapting themselves.

In Mexico, the adoption of competency-based education, in particular, has not come about with the same speed or depth as in other countries. While Germany, Australia, the U.S. and England, to cite some examples, have been working for various decades in this paradigm, in Mexico the implementation of competency-based education has been gradual and incomplete. Worse yet, as seen in Chapter 2, we have found that in Mexico an important number of companies report that at the time of their being contracted by companies, young persons graduating from IHE do not have the minimal level required in competencies as basic as "written communication", "reading comprehension", or "public speaking". While this is, per se, already sufficiently serious, the matter is even more complicated, because a young graduate, on not having achieved the development of those basic competencies during the entirety of his time spent within the educative system, will probably not have developed more complex competencies either. That is, if the formation of a child in linguistic communication is weak, he will surely face great difficulties later on in attempting to communicate his ideas, this entailing repercussions on a series of even more sophisticated competencies, such as sales, negotiation, conflict resolution or argumentation. In other words, if he didn't learn how to walk, it will be difficult for him to run.

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2 Gary Becker, *Human Capital: A Theoretical and Empirical Analysis*, 1964.

Table 2.4 Basic competencies not found by companies

Objetivo: Conocer las competencias que deben reforzarse en la educación primaria.
Fuente: Encuesta CIDAC
Unidades: cualitativo

Competencias básicas que no encuentran las empresas

Comunicación escrita en español

Comunicación oral en español

Comunicación oral en inglés

Puntualidad

Sentido de responsabilidad

Iniciativa o proactividad

Capacidad de síntesis de información

Pensamiento lógico y ágil

The evidence –data on coverage, quality results, and the gap that exists between the supply of and demand for competencies- suggest that Mexico should implement important improvements from the most fundamental up to the highest levels of the educative system. This is not only a problem of the government; many of these deficiencies –above all those related with the quality of education and the syntony between education and labor supply and demand- are also those ailing private education.

Similarly to procuring that students continue their education, it is very important to ensure that the education that students do receive is focused on the competencies that are those that are most needed. It is, additionally, very important that during the times that the concepts and competencies are taught, children and young persons are in turn taught what these are for and how they will be useful in their later personal and professional lives.

CONCLUSION: The situation of educational coverage and quality in Mexico is of great consequence. What to teach and how to teach it, from the perspective of competencies, should play a prominent role that extends beyond public discourse or program descriptions, becoming a process that involves IHE, companies, industrial chambers of commerce and economic centers in the design, execution and evaluation of educative programs.

2

GAP BETWEEN THE SUPPLY AND DEMAND OF COMPETENCIES

GAP BETWEEN THE SUPPLY AND DEMAND OF COMPETENCIES

The wheel, the printing press, the steam engine and the Internet are perfect examples of disruptive technologies that on the one hand have generated enormous benefits for humankind, but on the other have modified, sometimes drastically, work conditions in companies, industries, countries and regions. Technological change is the driving force of productivity and economic growth. Thus affirm various economic models and studies[1]. And among the many ways that technology modifies or generates new game rules, we find readjustments in the assignment and importance of the capital and work within the productive processes, as well as the *type* of capital and work that the market requires. For example, it is sufficient to compare the dynamic and work styles in an office or company in a television series set in the sixties and seventies of the past century, with the same type of series, but this time staged in the present.

As the consequence of technological advances, companies that previously were work-intensive became capital-intensive. That is what happened, for example, with public parking lots. Not many years ago, it was common to have one person who exercised the role of cashier. Today, in contrast, there are increasingly more parking lots in which the cashier is a machine.

If we combine all of this with the phenomenon of globalization, it is not difficult to note that similarly to the way that a telephone or automobile "goes out of style" in a few years, the concepts and competencies that are developed in the educative system can also entertain a certain expiration date of sorts. But while it is clear to nearly everyone that a phone or a car is a temporary asset that we will eventually have to substitute or renovate, in the ambit of education it is not as clear to us how rapidly, and above all in such a drastic manner, knowledge becomes obsolete, thus providing few profits in return.

Let us look at the case of the computer. The first computer capable of executing complex calculations was invented in 1944. However, it was not until 1970, nearly three decades later, that the first personal computers were manufactured. Only seven years after that microcomputers appeared. And currently in less than a year computer models, their operative systems, their applications and their uses change. And here lies the important part of this for our study: every one of these technological changes is related with changes in the competencies required to utilize them.

Thus is born the gap between the supply and demand of competencies: technology and production processes adjust themselves at a greater speed than that which at which the plans of study offered at Institutions of Higher Education (IHE) are reviewed, redesigned and executed.

Another very good example is video games. Some decades ago, in order to play them one only needed to manipulate a lever and a button; at present nearly all the fingers of the hands and in some cases bodily movements and voiced instructions are employed. The competencies or skill required by video games 20 years ago are distinct from those required by today's games. And the same is happening with the employment positions, roles, activities and tasks that

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1 From the middle of the past century, Economists Solow and Schumpeter noted that technological progress was accompanied by an increase in productivity, hence, economic growth.

must be performed within a company or industry. It should not be surprising, then, that there are companies that are not finding the competencies that they require for their productive processes.

From plant supervisors to surgeons there is the need to update their knowledge and competencies, because every day there arise new concepts, processes and technologies that generate learning that never ends. Thus the growing number of Institutes of Higher Education (IHE) that offer postgraduate programs. According to the Secretary of Public Education (SEP) in Mexico, while in 1990 there were only 424 institutions that offered postgraduate programs in the country, at the end of a decade there were more than 1,900[2]. The demand was also growing; during this same period student enrollment in postgraduate programs grew by 85%, a rate very superior to that of the increase in population, suggesting that more than being a demographic phenomenon, there was a real and vertiginous interest in acquiring more and better competencies, as well as achieving a higher degree of specialization.

While the changes that we have mentioned have generated a need for being well prepared, it can also be observed that those same changes have also generated   greater difficulty in finding jobs in certain companies and industries. In principle, technology comprises a substitute for much of the work or for many of the employment positions previously performed by persons. See, for example, what has occurred with travel agents or secretaries.[3] In the same way that changing the course of the flow of traffic on a street can lead a business to prosperity or bankruptcy, a technological advance can, in little time, wipe out an industry or a profession.

However, technology can also catalyze the reach and importance of the job. If young people were asked, "Where would you prefer to work: in a job, company or industry on its way to becoming an endangered species, or in a job, company or industry in which novel technologies are opening up new horizons for your competencies, far from making them obsolete, the answer would be obvious. However, many young people continue choosing majors and studying programs that are either not well updated, or that are not those most in demand by companies, or that do not take advantage of the most recent technologies.

On the other hand, at the anecdotal level, if today in Mexico one were to ask a Human Resources employee, a company owner, or an entrepreneur how difficult or easy it was to fill a post in their organization, the response in the majority of cases would fall between "difficult" and "very difficult"; if on the other hand one were to ask a recent university graduate or student about to graduate from an IHE, which job options had been presented to them, the answer would tend to be "few" or "very few". The generalized commentary among one and all -and that this study confirmed- is that some of the former do not find good workers and some of the latter do not find good jobs.

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2 Data: *http://www.sep.gob.mx/work/models/sep1/Resource/1899/2/images/principales_cifras_2010_2011.pdf.*

3 Condon and Wiseman, AP IMPACT: Recession, Tech Kill Middle-Class Jobs *http://bigstory.ap.org/article/ap-impact-recession-tech-kill-middle-class-jobs.*

GAP BETWEEN THE SUPPLY AND DEMAND OF COMPETENCIES

Chart data:
- Applicants do not have the competences skills/knowledge: 70.54
- Candidates do not have the personality required: 24.81
- Lack of experience: 2.33
- Expected a higher salary: 2.33
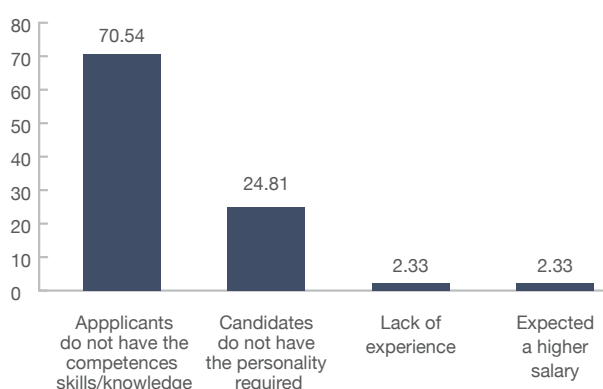
Table 3 Reasons why vacancies where not filled

Objective: Understand the deficiencies companies perceive in young people
Source: CIDAC survey
Units: Percentages

In terms of context, the unemployment rate in Mexico for young people between the ages of 15 to 24 years in 2013 was found to be around nine percent, while in adults 25 years and over this was four percent. In line with this, according to information of the International Labor Organization (ILO), young persons have a three times greater probability of being unemployed, which is noteworthy, because according to the data of our survey around 26 percent of the companies interviewed cannot find workers –especially young workers- with a competency profile that satisfies the requirements of the position, despite that they had interviewed candidates for these posts.

There is no doubt that the supply/demand dynamic of competencies is not working efficiently. To what is this due? Perhaps the most important reason is that the agility and manner of adapting to the changes described at the beginning of the chapter is not the same at companies and industries as at IHE. While a company that does not adapt to the new changes disappears, the same is not necessarily true among IHE (and, as a sample, it is sufficient to see the names and content of many programs still being taught). This occurs, in part, because changes in many IHE are especially difficult to carry out due to the bureaucracy inherent in their structures, above all in public universities.

A second explanation for the gap in the competencies supply/demand dynamic may be found in that companies and IHE do not possess the same information; companies become aware more rapidly of the competencies required for their productive processes and cannot allow themselves to react as slowly as IHE frequently do.

In any case, the data sustain the existence of this work gap. While employment in agriculture and in the manufacturing industry has diminished, work in services had grown. On 1995, 28 percent of workers of Organisation for Economic Co-operation and Development (OECD) countries were employed in the manufacturing industry and 63 percent in services. Ten years later, in 2005, the number corresponding to industry was 24 percent vs. 70 percent in services.[4]

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4 OECD, *Human capital: Cómo moldea tu vida lo que sabes, Human capital: How what you know molds your life, 2007*, p. 3. Available at: *http://www.oecd.org/insights/38435951.pdf.*

Worldwide, formal employment in the industrial sector and, particularly, in manufacturing, has diminished, while employment in services has increased.[5] Even among the most powerful manufacturing economies, such as South Korea and Germany, increasing numbers of jobs are being created in research and development, product design, engineering and marketing, and not on the factory work floor.[6] Additionally, in recent years, above all in those prior to the financial crisis of 2008, there has been a structural change in the amount and quality of jobs for which there is a demand in OECD countries, much more heavily weighted toward high value-added occupations.

It is therefore evident that the demand for high-level competencies has been growing for several years now, given the changes in the industrial and occupational structure of employment, particularly in the most developed countries, such as the U.S. and some members of the European Union (EU).[7] This justifies that in the advanced economies high unemployment rates even when there are a considerable number of uncovered openings, because employers are unable to find the qualified talent that they need.[8]

To date, it is calculated that 40 million workers of advanced economies are unemployed. With the increase in global competition, demographic change and rapid technological development has intensified the disarranging of competencies. That is, greater capacities are increasingly needed to satisfy the long-term requirements of the work market, and for both professionals and companies to remain similarly competent and to even protect themselves against the technological changes of the XXI Century.

The fact that job positions cannot be filled due to lack of candidates with knowledge and competencies, or otherwise they are filled with persons lacking many of the elements required, gives rise to a disarrangement in the economic development of the country. That also involves young persons who are overqualified on graduation from IHE, that is, possessing better qualifications than those demanded by the market, or with competencies for which there is no application in the companies. The problem of the gap between supply and demand can go both ways.

However, under-education –when the qualification levels of the workforce do not even reach the minimal levels required by companies- is that which is of particular interest to us in this study, because of its more direct relationship with unemployment and other social, economic and political problems.

In addition to Mexico, in countries like Australia, New Zealand or Japan, among others, problems are also reported in filling vacancies due to the scarcity of competencies.[9] In addition to the reasons offered previously –distinct

5 BANXICO, *Changes in the composition of employment and the productivity of work in the formal sector of the Mexican economy: 2000-2005. Available at: http://www.banxico.org.mx/publicaciones-y-discursos/publicaciones/documentos-de-investigacion/banxico/por ciento7B4E97827E-F364-21D7-B392-B223BC039B0Cpor ciento7D.pdf.*

6 McKinsey Global Institute, 2012b.

7 (OECD,2012)

8 (McKinsey Global Institute, 2012a)

9 (OECD (2010)).

GAP BETWEEN THE SUPPLY AND DEMAND OF COMPETENCIES

incentives and information between companies and IHE-, this also is reflected in the manner in which increasing numbers of persons seeking a professional degree, have increased educative options without the quality of education having necessarily improved. It is there where we return to the fact on which this study is centered: persons graduating from IHE, in many cases, are obtaining academic degrees that do not agree with the competency level in demand by companies and industries. In short, their academic degrees and studies are lacking in value, because they do not offer what the market seeks.

CONCLUSION: Given the rapid pace of economic and technological changes at the domestic and international levels, students, workers and educators need better access to information on job vacancies and to the positions that employers are most likely to create. The need is on the rise for a reliable data source, capable of reflecting the job positions currently in demand in all of the functional areas of companies at the national level that require certain academic credentials or experience, and the salaries being paid for these occupations in different regions and cities. With this information, students and workers could make better decisions and invest more efficiently in obtaining competencies. Similarly, this would render it more probable that the private sector would find the talent that it requires and for the economy's productivity to rise in its totality. The generation of a competencies map in which, by state, sector, company and area, the competencies can be identified that, from the perspective of companies, are the most important and the most scarce, is an important step in that direction.

2

3

COMPETENCIES

COMPETENCIES

According to the Organization for Economic Cooperation and Development (OECD), *competencies* are understood as skills and capacities acquired by means of a deliberate and systematic effort to carry out complex activities. That is, a competency is a capacity that is attained on combining knowledges, skills, attitudes, and motivations, and on applying that capacity within a determined context: in education; work, or personal development. A competency is not limited to cognitive elements –use of implicit theories, concepts, or knowledges-, but rather includes technical abilities as well as personal attributes.[1]

In turn, it is generally accepted that competencies are divided into two large groups: those related with professional knowledges, such as work tools or production techniques, and those that are instead related with the manner in which persons relate with each other, interact, communicate, or manage their emotions and those of others. The former are known as technical, or "hard" competencies, while the latter, as social or "soft" competencies.

To give some examples, in the first group are found financial competencies, accounting competencies, those of administrative processes, machinery management, and the use of software, i.e., those that are relatively simple to measure. On the other hand, in the second group are found competencies that are more difficult to quantify or evaluate in an objective manner because they are rather those of knowing how to listen, understanding a text, communicating an idea, giving or receiving biofeedback, exercising leadership, or working as part of a team.

While there are many tests that measure the development and quality of competencies, the ultimate examiner, and perhaps the most important, is found in the area of Human Resources or as a result, in a situation of contracting or rejecting a candidate for a certain professional position. That is, at least for the effect of the placement and immediate work success of the young university graduate, the most important judges are the companies.

The effort to identify the most necessary competencies among young university students or professionals in general is not new. Much has been written in various countries, or by international organisms, on *skills for the 21st century*. However, from our point of view, many of the competencies identified in these exercises are too vague or general: "leadership", "teamwork", "mathematical reasoning", or "technological literacy" are some of the competencies cited most frequently that, while being undeniably important, are not sufficiently specific to be truly operative. That is, many of these can and should be itemized into more concrete competencies.

In previous chapters, we have addressed the situation of education in Mexico and the gap that exists between the offer and demand for competencies in young people. Thus, in this chapter, we will present a list of 136 competencies, generated by our group but validated in diverse ways, on which we conducted interviews in the following areas of companies throughout the national territory: Human Resources; Administration and Management; Finances and Accounting; Production and Operations; Sales and Marketing, and Systems and Technology.

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1 OECD. Towards an OECD Skills Strategy. 2010. *http://www.oecd.org/edu/47769000.pdf*

On carrying out these interviews, we cite those responsible for Human Resources and for the remaining areas that contract young people graduating from Institutions of Higher Education (IHE) for, among other points, to see (1) which the competencies are that they considered the most important for their areas and companies, and (2) which are those that they consider most scarce or that are more difficult to find, whether there are no young persons with that preparation or because there are in theory, but in reality this preparation is of low quality.

Next we present the list of competencies by category and area that we will utilize for our study.

LIST OF COMPETENCIES

GENERAL			
General culture	Leadership	Information technologies	Quantitative:data analysis
Communication tools	Personal image	Operations-logistics	Quantitative: financial-accounting
Communication with others	Personal efficiency	Technical knowledges in engineering	Other (specify)_____
Teamwork	Emotional intelligence	Quantitative:statistics	Specific capacities
Innovation/entrepreneurship	Sales and marketing	Qualtitative: mathematics	

GENERAL CULTURE

1. Basic knowledges on politico-electoral analysis
2. Basic knowledges on legal and regulatory analysis
3. Basic knowledges on talent recruitment and selection
4. Basic knowledges on equipment use and/or specific machinery
5. Basic knowledges on project administration
6. Other (specify)_____

COMMUNICATION TOOLS

7. Written communication (in Spanish)
8. Oral communication (in Spanish)
9. Communication in English: written
10. Communication in English: oral
11. Communication in another language, in general (which one?)
12. Capacity of information synthesis
13. Other (specify)_____

COMPETENCIES

COMMUNICATION WITH OTHERS

14. Capacity of negotiation and conflict resolution

15. Understanding of other cultures and customs

16. Training talent

17. Giving and receiving biofeedback

18. Speaking effectively in public

19. Logical and clear reasoning

20. Other (specify)_____

TEAMWORK

21. Task distribution in teamwork

22. Negotiation and conflict resolution within the team

23. Putting team objectives before personal objectives

24. Assertive communication

25. Knowing how to listen to others

26. Self-knowledge of strengths and weaknesses

27. Coordination of teamwork

28. Other (specify)_____

INNOVATION/ENTREPRENEURSHIP

29. Detection of opportunities for processes and/or product improvement

30. Detection of new business opportunities

31. Implementation of new projects

32. Generation of novel ideas

33. Importation or adaptation of practices of other sectors

34. Development of strategic alliances

35. Other (specific)_____

LEADERSHIP

36. Accurate and agile decision making

37. Self-confidence

38. Sense of responsibility

39. Initiative or proactivity

40. Capacity for motivating others

41. Other (specify)_____

PERSONAL IMAGE

42. Facility of speech

43. Punctuality

44. Knowing how to treat a client

45. Carisma
46. Physical aspect
47. Attire and personal grooming congruent with the company
48. Manners congruent with the company
49. Other (specify)_____

PERSONAL EFFICIENCY

50. Efficient time management
51. Efficacy in working under pressure
52. Tolerance for frustration
53. Task planning
54. Problem solving
55. Willingness to learn
56. Rapid learning
57. Other (specify)_____

EMOTIONAL INTELLIGENCE

58. Adherence to procedures
59. Self-motivation
60. Empathy
61. Attention to detail
62. Logical and agile thinking
63. Discretion in the use of confidential information
64. Possessing long-term personal and professional goals
65. Respecting hierarchies
66. Knowing how to initiate and maintain professional relationships (networking)
67. Other (specify)_____

SALES AND MARKETING

68. Market research
69. Generation and execution of marketing campaigns
70. Sales ability
71. Knowledge and basic management of surveys
72. Leading focus groups
73. Knowledge and use of CRM (Customer Relationship Management)
74. Social networks administration
75. Efficient events organization
76. Efficient management of public relations toward the outside
77. Skill in graphic design
78. Other (specify)_____

COMPETENCIES

INFORMATION TECHNOLOGIES

79. Programming (specify the language)

80. Internet site design (programming)

81. Network administration (hardware)

82. Development of apps

83. Database administration

84. Administration of advanced telecommunications infrastructure: 4G, satellite, geolocalization...

85. Hardware maintenance and repair

86. Basic packaging: Word, Excel, PowerPoint, Access, Outlook, Internet, etc.

87. Advanced packaging:¿Mention 3?|_____||_____||_____|

88. Encripting and informatics & security

89. Other (specify) _____

OPERATIONS–LOGISTICS

90. Systems thinking

91. Implementation of total quality (Six Sigma, Kaizen...)

92. Design/product engineering

93. Inventory administration, planning, and prognosis

94. Process appraisal

95. Knowledge of the supply chain

96. Administration of suppliers (procurement)

97. Other (specify) _____

TECHNICAL KNOWLEDGES OF ENGINEERING

(98-108) Por la diversidad y especificidad técnica de las competencias de este grupo, estas opciones se dejaron abiertas en el cuestionario para ser completadas libremente por el entrevistado.

Falta traducción

QUANTITATIVE: STATISTICAL

109. Knowledge and basic management of descriptive statistics

110. Knowledge and basic management of probability

111. Knowledge and basic management of inferential statistics

112. Knowledge and basic management of econometry

113. Knowledge and basic management of Bayesian statistics

114. Knowledge and basic management of geostatistics

115. Other (specify)_____

QUANTITATIVE: MATHEMATICAL

116. Knowledge and basic management of differential equations

117. Knowledge and basic management of mathematical topology

118. Knowledge and basic management of algebra
119. Knowledge and basic management of calculus
120. Other (specify)

QUANTITATIVE: DATA ANALYSIS
121. Knowing how to search for data
122. Construction of databases
123. Generating tables, figures, ideas, and recommendations from data
124. Uncovering trends, patterns, and relationship among variables
125. Data mining in already existing databases
126. Other (specify) _____

QUANTITATIVE: FINANCIAL-ACCOUNTING
127. Knowledge and basic management of tax administration
128. Knowledge and basic management of financial mathematics
129. Knowledge and basic management of corporate finance
130. Knowledge and basic management of stock market finance
131. Knowledge and basic management of accounting
132. Knowledge and basic management of risk administration
133. Budget elaboration and administration
134. Knowledge and basic management of financial models
135. Project appraisal
136. Other (specify) _____

4

REPORT: EMPLOYMENT IN YOUNG PEOPLE AND RECRUITMENT PRACTICES

REPORT: EMPLOYMENT IN YOUNG PEOPLE AND RECRUITMENT PRACTICES

The panorama of young people and the recruitment practices that we have found portrays mixed results. On the one hand, we found obvious results - employment agencies are an excellent resource to find work; or the important role that families, acquaintances, and persons who recommend play in obtaining a job-, while on the other hand, surprises were in store for us, such as, for example, that the newspaper continues to be an important resource for a job search, or the fact that thirteen percent of young people who experience rejection on applying for a job are turned down because they exhibit "too high salary aspirations", that is, they arrive at the companies with a distorted perception of the real economic value of their competencies.

Evidence in the yield in our results suggests that the conditions under which young people seek and obtain a job has not varied much in the last decades, this in regard to the manner in which a job is sought and employment is found. With respect to the theme of competencies, we have uncovered evidence that, despite that lack of experience is the most important reason that a young person does not obtain a position, the interviewees did recognize that in many cases it is the absence of "hard" and "soft" competencies that truly determines their not being hired.

Among our multiple findings, we will next present the main ones: the importance that certain areas impart (or do not impart) to the educative situation of young people (Table 5.1); the principal recruitment sources for contracting young people (Table 5.2); the practices engaged in to recruit young people (Table 5.3); the main reasons for which young people are not contracted (Table 5.4). Taking these tables together we come upon some conclusions which seem interesting to us, and which we will take up again at the end of this study in our recommendations:

- From a recruitment perspective, the Finance & Accounting areas place greater emphasis on having a degree than those of Sales & Marketing. This demonstrates that not only the program studied is important, but also the study stage of the job seeker.

4

Table 5.1 Educational situation of the young people hired by the interviewed companies

Objective: Evaluate in what educational level do companies hire the most number of young people
Source: Competences survey CIDAC 2013
Units: Percentages

Finished postgraduate degree

Postgraduate degree students

Finished college/undergrad degree (college education)

Interns (college education)

Unfinished college/undergrad studies (college education)

Current students (college education)

Incoming students (college education)
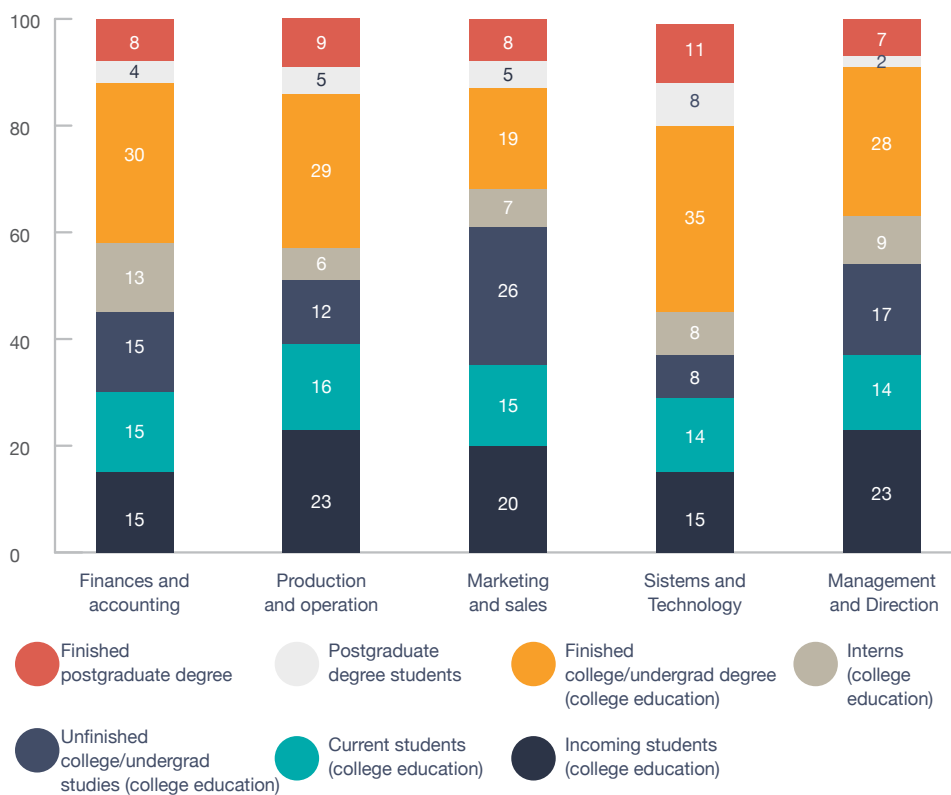
REPORT: EMPLOYMENT IN YOUNG PEOPLE AND RECRUITMENT PRACTICES

• Despite that employment agencies occupy an important role among the principal recruitment sources, personal recommendations entertain significant weight. In turn, it is noteworthy that in these times, advertisements of employment vacancies in newspapers continue to play a significant role. The widespread utilization of both practices –the use of recommendations and consultation of the classified ads in the newspaper -evidence that contracting young people by companies still functions in the traditional manner carried out during the last decades.

Facebook
0.6%
Advertisements outside the office
0.8%
Intern recruitment
0.6%
Newspaper ads
15.23%
Job fairs
7.82%
Recomendation
14.03%
Employee family member
5.01%
Employee acquaintance
9.82%
Labor union
0.2%
University job listings
10.2%
Government job listing
16.3%
Online job listing
18.84%
Proximity with the faculties
1%
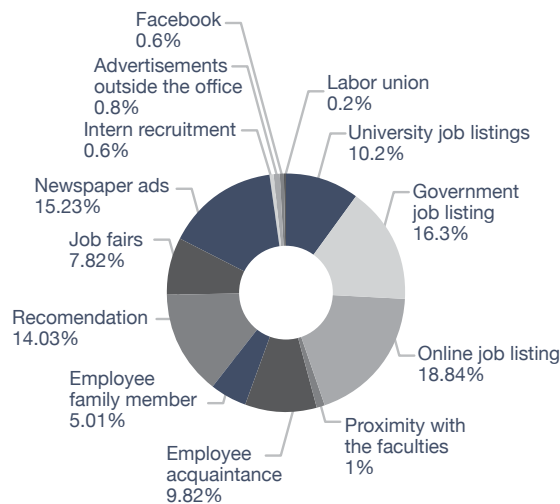
Table 5.2 Recruiting sources used by the interviewed companies to hire young people

Objective: To know which are the most frequented sources of recruiting in México
Source: Competences survey CIDAC 2013
Units: Percentages

• In an era of a great variety of tools, psychometric examinations and technological resources, interviews continue to be a determining factor for procuring employment. This is good example of how, while important technological advances and initiatives have been made to aid in reducing the gap between offer and demand, the technological does not yet comprise, for the recruiters, a substitute for personal interviews.

Recommendation
4.41%
Psychometric test
1.6%
Revision of résumés
14.03%
Psychological test
5.61%
Knowledge test
2.4%
Honesty test
0.4%
Interview
71.54%
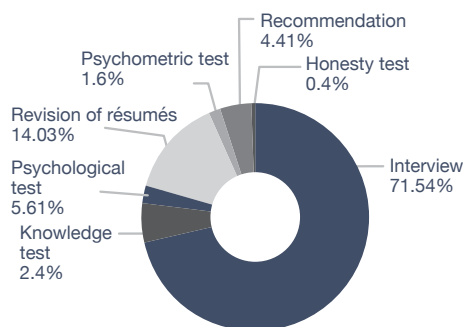
Table 5.3 Selection practices used by the interviewed companies when hiring young people

Objective: To know the most used practices in the recruitment selection in Mexico
Source: Competences survey CIDAC 2013
Units: Percentages

• Along our investigation evidence abounds of the importance of possessing specific competencies. Among the reasons for which companies most commonly do not contract a young person we find "does not know how to sell himself", the "lack of social skills" and the lack of specific technical knowledge". The three add up to a little more than 33 percent of reasons for which a job applicant is not accepted.

Table 5.4 Main reasons why young people are rejected by the companies interviewed when searching for a job

Objective: Evaluate the causes why young people are not hired
Source: Competences Survey CIDAC 2013
Units: Percentages

Reason	Percentage
Lack of job experience	27.6
Not knowing how to "sell themselves"	14.03
Low educational level	13.83
High salary expectancies	13.03
Lack of social skills	11.02
Lack of specific technical knowledge	9.02
Poor image	6.01
Lack of general culture	4.41
Failure to adapt to work environment	0.8
Irresponsability	0.2

5
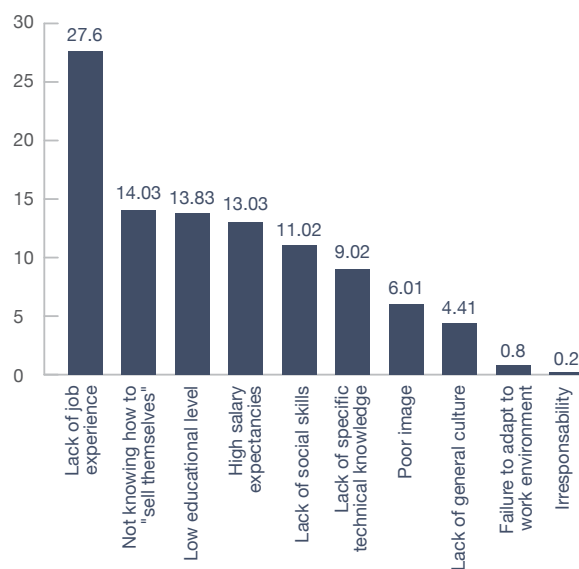
REPORT: LINKS BETWEEN COMPANIES AND IHE

REPORT: LINKS BETWEEN COMPANIES AND IHE

The theme of links between companies and Institutions of Higher Education (IHE) is the typical one that everyone is clear about and supports, but that in practice does not exist with the desirable frequency or quality. Disconnection between the two is nothing less than a tragedy, because among the resources and strategies that exist to reduce the gap between supply and demand of competencies among young university professionals, that which is most advantageous is, in our judgment, the link between companies and industries (represented by their chambers and associations) and IES.

The benefits of greater proximity among the actors are multiple. In principle, links directly and efficiently reduce information asymmetry between companies and IES; between IES and students; and finally between companies and students. When information flows among the parties, companies, IES and students can understand perfectly which competencies are those that will permit university students and the newly employed to achieve full development as persons and professionals.

In our study, in only seven of the 32 states were there companies interviewed that said that they had some type of collaboration with IHE to recruit young people (using the university's job placement office, for example). In all of the remaining states, the majority of companies reported not having any type of collaboration for recruitment with IHE.

A similar datum was observed on asking the companies, not only with regard to recruiting, about their link-up practices, with IHE. Only 32 percent of there companies mentioned having engaged in "some link-up" modality with an IHE; only 11 percent of companies noted having a link-up by means of an agreement –something more formal- with an IHE.

Ironically, 87 percent of companies that did have some sort of link-up cited that this did help, from their perspective, for young people developing better competencies. Even more so, 91 percent of the companies interviewed that reported having an agreement with an IHE stated that this type of agreement had been of benefit to them.

Link-ups between companies and IHE is scarce, but when it does occur, the companies do perceive benefits, among which are access to more and better competencies in young university students.

Last, there are distinct link-up levels and cooperation between IHE and the companies. These levels begin with collaboration in recruiting young persons (the easiest part), and then comes the link for carrying out professional practicums, social service or internships, and even agreements on updating or developing plans of study.

5

Table 6.1 Colaboration of the companies interviewed with IES to recruit young people by state

Objective: Evaluate the existing coolaboration between IES and the companies by state
Source: CIDAC survey
Units: Percentages
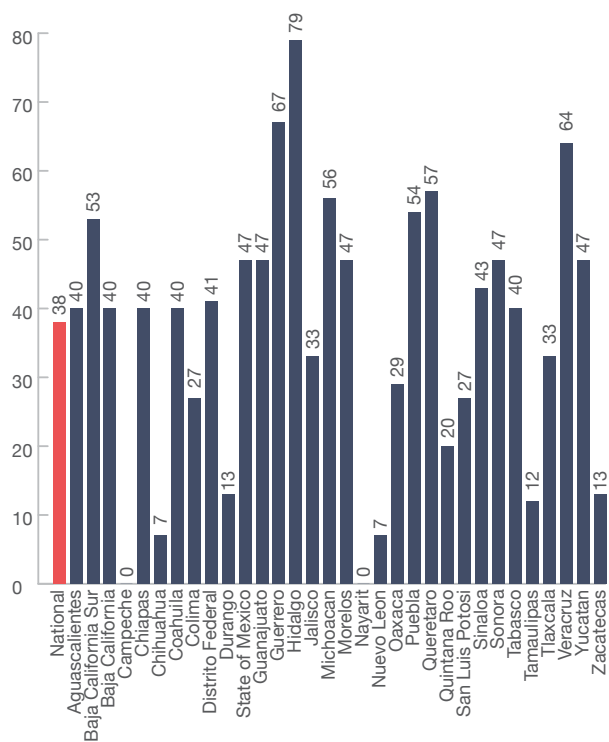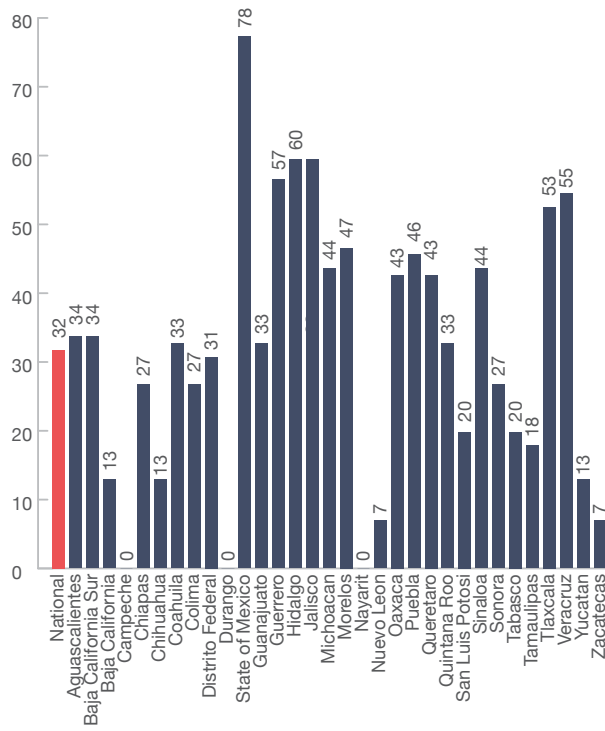
Table 6.2 Percentage of companies with agreements with an HEI by state

Objective: Measure the amount of companies with current agreements with education institutiones
Source: Competences survey CIDAC 2013
Units: Percentages
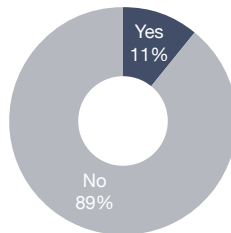
Table 6.3 Companies interviewed that have a certain type of agreement with certain IES

Objective: Evaluate if the companies have any agreements with IES to modifate the study plans
Source: Competences survey CIDAC 2013
Units: Percentages

5

Table 6.4 Type of existing agreements be-
tween the interviewed companies
and IES

Objective: Evaluate the most used type of
agreement between the companies and IES
Source: Competences survey CIDAC 2013
Units: Percentages
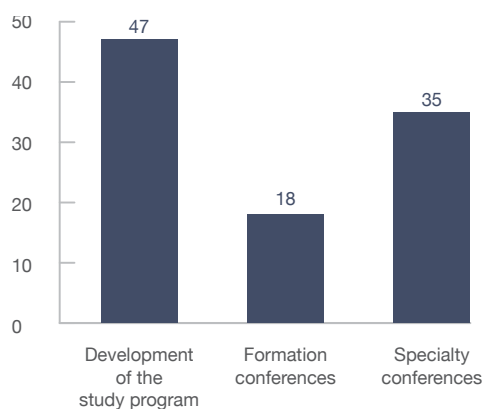
Table 6.5 Interviewed companies that
consider that have been benefit with the
agreements with IES

Objective: Evaluate the importance of the agree-
ments with IES
Source: Competences survey CIDAC 2013
Units: Percentages
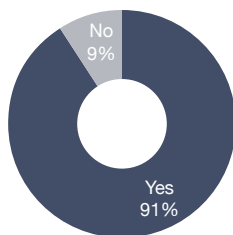
Table 6.6 Interviewed companies that
have had certain vinculation modality with
an IES

Objective: Interviewed companies that have had
certain vinculation modality with an IES
Source: Competences survey CIDAC 2013
Units: Percentages
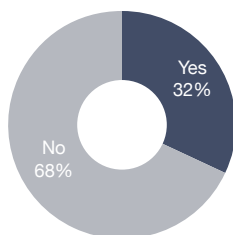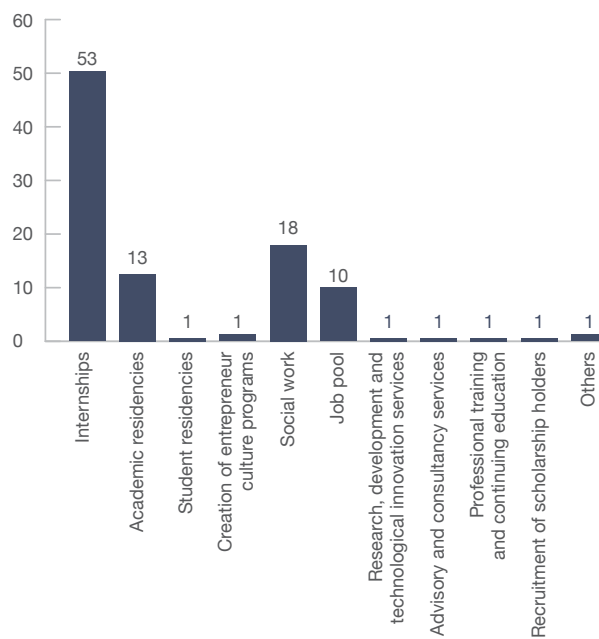
Table 6.7 Most common vinculation activities between the interviewed companies and IES

Objective: Know what mechanisms of vinculation are the most used by the companies
Source: Competences survey CIDAC 2013
Units: Percentages
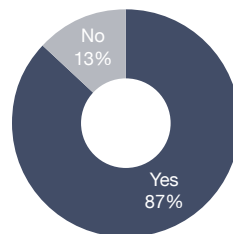
Table 6.8 Companies interviewed that reported that the link with IES generated better competences in young people

Objective: Evaluate if the linking methods are contributing to enhance the abilities
Source: Competences Survey CIDAC 2013
Units: Percentages

5

6

REPORT: COMPETENCIES BY STATE

n this chapter, we present the following information by national level and by state:

- The size of the gap between the supply and demand of competencies.

- The importance and relative scarcity of general competencies from the perspective of Human Resources.

- The most important and scarcest competencies from the perspective of Human Resources.

- The importance and relative scarcity of general competencies from the perspective of the different areas.

- The most important and scarcest competencies from the perspective of the different areas.

Estos bullets vienen incompletos, asi se quedan??

Yes
26%

No
74%
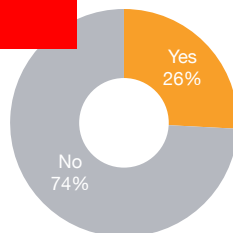
Table 7.1 Skills gap size

Do you have vacancies even though you have candidates for the position?

*Human Resources questionnaire, ENCOP 2014
question 61

6

Table 7.2 Most important competencies according to Human Resources

7.76		21.29	GENERAL CULTURE
10.64		10.2	COMMUNICATION TOOLS
11.31		8.2	COMMUNICATION WITH EVERYONE
29.71		10.64	TEAM WORK
10.42		11.97	INNOVATION
7.54		13.3	LEADERSHIP
6.21		9.98	APPEARANCE
10.42		5.54	PERSONAL EFFICIENCY
5.99		8.87	EMOTIONAL INTELLIGENCE

30 25 20 15 10 5 0 5 10 15 20 25
⬤ Important   🟠 Scarce
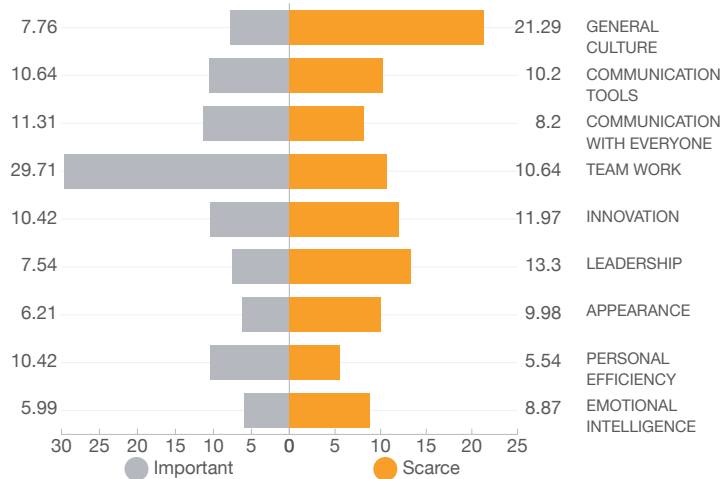
Questions 16_1 y 16_1_1 HR, Human Resources questionnaire, ENCOP 2014

Most important competencies according to Human Resources	Competences
Basic knowledge of equipment and machinery use	GENERAL CULTURE
Capacity of negotiation and conflict resolution	COMMUNICATIO WITH EVERYONE
Basic knowledge in administration	GENERAL CULTURE
Basic knowledge in recruitment	GENERAL CULTURE
Oral communication in Spanish	COMMUNICATION TOOLS
• Scarce	

NATIONAL

Table 7.3 Most important competencies according to the Areas

Important	Scarce	Area
5.58	10.69	GENERAL CULTURE
8.42	5.87	COMMUNICATION TOOLS
8.04	7.47	COMMUNICATION WITH OTHERS
18.26	7.47	TEAM WORK
5.2	8.23	INNOVATION
11.26	9.65	LEADERSHIP
5.11	6.53	APPEARANCE
7.85	8.23	PERSONAL EFFICIENCY
4.07	5.01	EMOTIONAL INTELLIGENCE
7.85	5.01	MARKETING
4.35	5.39	TIC
2.93	2.84	OPERATION
4.82	5.01	ENGINEERING
0.47	3.12	STATISTICS
0.38	3.41	MATHEMATICS
0.95	2.93	DATA ANALYSIS
4.45	3.12	FINANCING -ACCOUNTING

Important   Scarce

*Questions 16_1 y 16_1_1 HR questioneer.

Most important competencies according to the Areas	Areas
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Oral communication in Spanish	COMMUNICATION TOOLS
Accurate and agile decision-making	LEADERSHIP
Basic knowledge in equipment and machinery use	GENERAL CULTURE
• Scarce	

6

AGUASCALIENTES

Yes
26%

No
74%

Table 7.4 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

*HR questioneer question 61

Table 7.5 Important and Scarce competences

Important	Scarce	Competence
7.76	21.29	GENERAL CULTURE
10.64	10.2	COMMUNICATION TOOLS
11.31	8.2	COMMUNICATION WITH EVERYONE
29.71	10.64	TEAM WORK
10.42	11.97	INNOVATION
7.54	13.3	LEADERSHIP
6.21	9.98	APPEARANCE
10.42	5.54	PERSONAL EFFICIENCY
5.99	8.87	EMOTIONAL INTELLIGENCE

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Basic knowledge in recruitment	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
Oral communication in Spanish	COMMUNICATION TOOLS

Table 7.6 Important and Scarce competences

Important		Scarce	Competence
5.58		10.69	GENERAL CULTURE
8.42		5.87	COMMUNICATION TOOLS
8.04		7.47	COMMUNICATION WITH OTHERS
18.26		7.47	TEAM WORK
5.2		8.23	INNOVATION
11.26		9.65	LEADERSHIP
5.11		6.53	APPEARANCE
7.85		8.23	PERSONAL EFFICIENCY
4.07		5.01	EMOTIONAL INTELLIGENCE
7.85		5.01	MARKETING
4.35		5.39	TIC
2.93		2.84	OPERATION
4.82		5.01	ENGINEERING
0.47		3.12	STATISTICS
0.38		3.41	MATHEMATICS
0.95		2.93	DATA ANALYSIS
4.45		3.12	FINANCING -ACCOUNTING

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer.

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Effective public speaking	COMMUNICATION WITH OTHERS
Oral communication in Spanish	COMMUNICATION TOOLS
Talent training	COMMUNICATION WITH OTHERS

La principal fuente de reclutamiento en Aguascalientes es la bolsa de trabajo de gobierno o municipal (53 por ciento).

Falta traduccion de estas notas todas

REPORT: COMPETENCIES BY STATE

BAJA CALIFORNIA SUR

Yes 14%

No 86%

Table 7.7 Size of the Skills gap

You have or have had vacancies that you were not able to fill despite there were candidates

*Human Resources questionnaire, question 61

Table 7.8 Important and Scarce competences
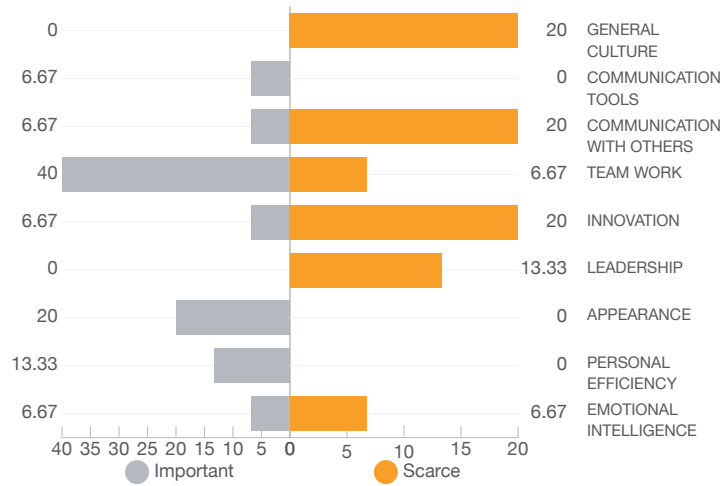
	Important	Scarce	
GENERAL CULTURE	0	20	
COMMUNICATION TOOLS	6.67	0	
COMMUNICATION WITH OTHERS	6.67	20	
TEAM WORK	40	6.67	
INNOVATION	6.67	20	
LEADERSHIP	0	13.33	
APPEARANCE	20	0	
PERSONAL EFFICIENCY	13.33	0	
EMOTIONAL INTELLIGENCE	6.67	6.67	

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Written communication in Spanish	COMMUNICATION TOOLS
Capacity of information synthesis	COMMUNICATION TOOLS
Assertive communication	TEAM WORK
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
• Scarce	

Table 7.9 Important and Scarce competences

3.92		17.65	GENERAL CULTURE
0		7.84	COMMUNICATION TOOLS
1.96		7.84	COMMUNICATION WITH OTHERS
43.14		5.88	TEAM WORK
-9.8		7.84	INNOVATION
7.84		9.8	LEADERSHIP
0		3.92	APPEARANCE
7.84		3.92	PERSONAL EFFICIENCY
5.88		5.88	EMOTIONAL INTELLIGENCE
3.92		1.96	MARKETING
0		7.84	TIC
0		3.92	OPERATION
5.88		5.88	ENGINEERING
0		0	STATISTICS
0		5.88	MATHEMATICS
0		0	DATA ANALYSIS
9.8		3.92	FINANCING -ACCOUNTING

Important   Scarce

Questions 16_1 y 16_1_1 HR questioneer.

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Sense of responsibility	LEADERSHIP
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Within-team negotiation and conflict resolution	TEAM WORK
Knowing how to listen to others	TEAM WORK
• Scarce	

53 por ciento de las empresas en BCS emplea a través de contratos parciales, temporales o por proyecto.

BAJA CALIFORNIA

Yes
33%

No
67%

Table 7.10 Size of the Skills gap

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.11 Most important competencies according to Human Resources
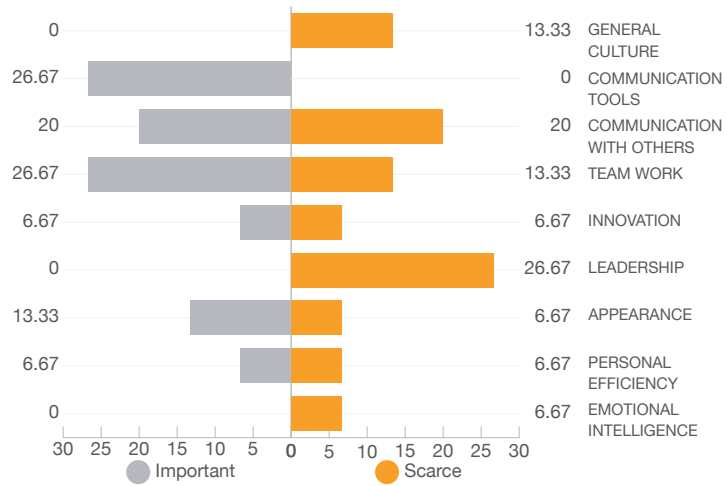
Important		Scarce	
0		13.33	GENERAL CULTURE
26.67		0	COMMUNICATION TOOLS
20		20	COMMUNICATION WITH OTHERS
26.67		13.33	TEAM WORK
6.67		6.67	INNOVATION
0		26.67	LEADERSHIP
13.33		6.67	APPEARANCE
6.67		6.67	PERSONAL EFFICIENCY
0		6.67	EMOTIONAL INTELLIGENCE

30 25 20 15 10 5 0 5 10 15 20 25 30
● Important   ● Scarce

Important	Competences
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Talent training	COMMUNICATION WITH OTHERS
Effective public speaking	COMMUNICATION WITH OTHERS
Adherence to procedures	EMOTIONAL INTELIGENCE
Basic knowledge in administration	GENERAL CULTURE

El principal problema para contratar a jóvenes es que no se saben vender (47 por ciento).

Table 7.12 Important and Scarce competences

Important	Competence	Scarce
0	GENERAL CULTURE	2
10	COMMUNICATION TOOLS	12
6	COMMUNICATION WITH OTHERS	16
6	TEAM WORK	10
8	INNOVATION	10
10	LEADERSHIP	14
6	APPEARANCE	8
6	PERSONAL EFFICIENCY	2
8	EMOTIONAL INTELLIGENCE	4
8	MARKETING	10
18	TIC	4
6	OPERATION	2
4	ENGINEERING	0
0	STATISTICS	2
0	MATHEMATICS	0
0	DATA ANALYSIS	4
4	FINANCING -ACCOUNTING	0

⬤ Important   🟠 Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
• Scarce	

CAMPECHE

Yes
25%

No
75%

Table 7.13 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.14 Most important competencies according to Human Resources

Important		Scarce	
6.67	GENERAL CULTURE	6.67	
6.67	COMMUNICATION TOOLS	20	
13.33	COMMUNICATION WITH OTHERS	0	
20	TEAM WORK	13.33	
0	INNOVATION	26.67	
13.33	LEADERSHIP	13.33	
20	APPEARANCE	13.33	
20	PERSONAL EFFICIENCY	6.67	
0	EMOTIONAL INTELLIGENCE	0	

● Important   🟠 Scarce

Important	Competences
Basic knowledge in legal and regulatory analysis	GENERAL CULTURE
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Oral communication in Spanish	COMMUNICATION TOOLS

Table 7.15 Most important competencies according to the Areas

5.71	8.57 GENERAL CULTURE
5.71	11.43 COMMUNICATION TOOLS
0	5.71 COMMUNICATION WITH OTHERS
8.57	2.86 TEAM WORK
8.57	5.71 INNOVATION
11.43	11.43 LEADERSHIP
5.71	11.43 APPEARANCE
5.71	8.57 PERSONAL EFFICIENCY
8.57	14.29 EMOTIONAL INTELLIGENCE
22.86	14.29 MARKETING
2.86	2.86 TIC
2.86	0 OPERATION
5.71	0 ENGINEERING
0	0 STATISTICS
0	0 MATHEMATICS
0	0 DATA ANALYSIS
5.71	2.86 FINANCING -ACCOUNTING

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

64 por ciento de las empresas otorga mayores prestaciones a su personal como parte de un ascenso.

Important	Competences
Basic knowledge in legal analysis and regulation	GENERAL CULTURE
Basic knowledge in political analysis	GENERAL CULTURE
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
• Scarce	

REPORT: COMPETENCIES BY STATE

CHIAPAS

64 por ciento de las empresas otorga mayores prestaciones a su personal como parte de un ascenso.
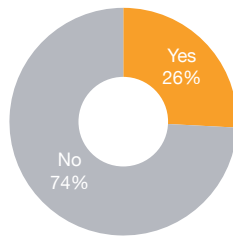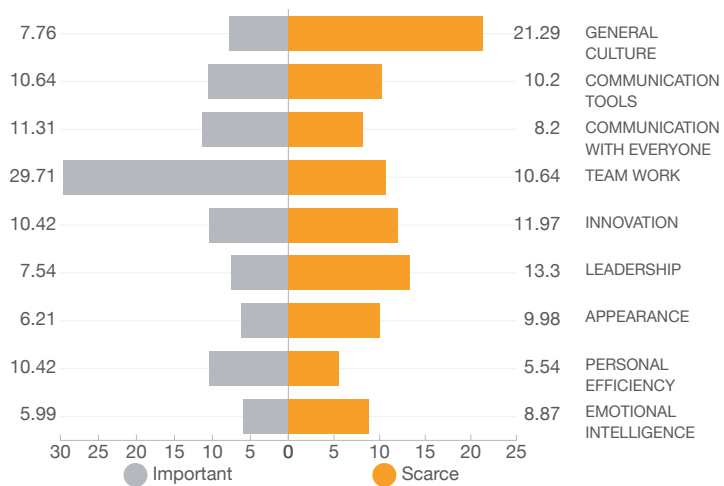
Yes 15%

No 85%
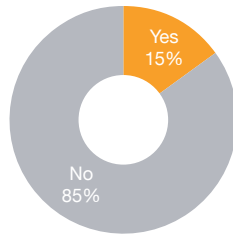
Table 7.16 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

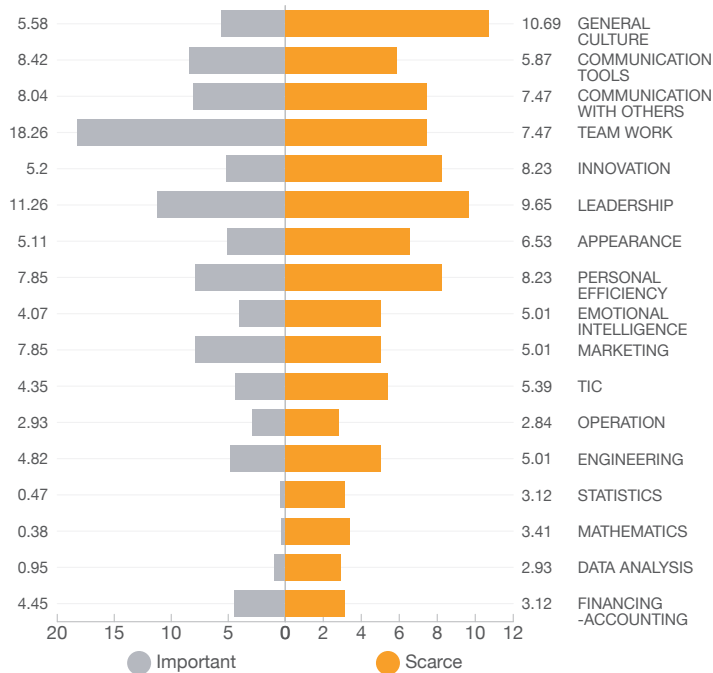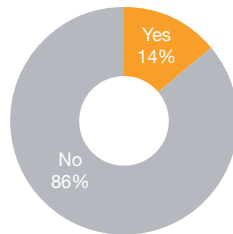HR questioneer question 61

Table 7.17 Most important competencies according to Human Resources

Important	Scarce	Competency
0	0	GENERAL CULTURE
0	0	COMMUNICATION TOOLS
6.67	6.67	COMMUNICATION WITH OTHERS
40	20	TEAM WORK
0	26.67	INNOVATION
33.33	26.67	LEADERSHIP
13.33	0	APPEARANCE
6.67	13.33	PERSONAL EFFICIENCY
0	6.67	EMOTIONAL INTELLIGENCE

40 35 30 25 20 15 10 5 0 5 10 15 20 25 30

● Important ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in political analysis	GENERAL CULTURE
Basic knowledge in recruitment	GENERAL CULTURE
Negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Basic knowledge in administration	GENERAL CULTURE
• Scarce	

6

Table 7.18 Most important competencies according to the Areas

	Important		Scarce		

Questions 16_1 y 16_1_1 HR questioneer
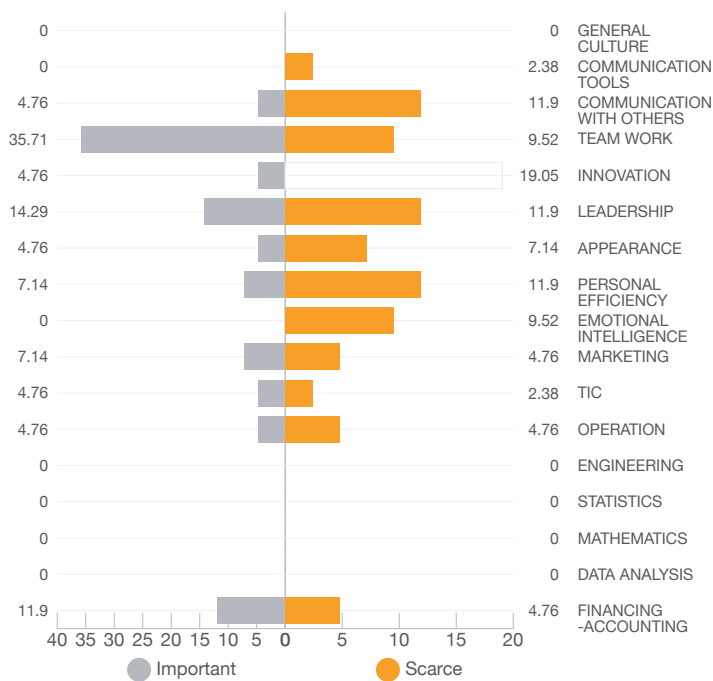
73 por ciento de las empresas en Chiapas recluta a través de la bolsa de trabajo del gobierno municipal.

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Oral communication in Spanish	COMMUNICATION TOOLS
Task distribution in work teams	TEAM WORK
Basic knowledge in recruitment	GENERAL CULTURE
• Scarce	

REPORT: COMPETENCIES BY STATE

CHIHUAHUA

Yes 7%

No 97%

Table 7.19 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.20 Most important competencies according to Human Resources

Important		Scarce	Competency
13.33		6.67	GENERAL CULTURE
20		33.33	COMMUNICATION TOOLS
33.33		13.33	COMMUNICATION WITH OTHERS
20		20	TEAM WORK
6.67		6.67	INNOVATION
0		0	LEADERSHIP
6.67		6.67	APPEARANCE
0		6.67	PERSONAL EFFICIENCY
0		6.67	EMOTIONAL INTELLIGENCE

35 30 25 20 15 10 5 0 5 10 15 20 25 30 35
⬤ Important   🟠 Scarce

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Task planning	PERSONAL EFFICIENCY
Communication in general in a language other than Spanish	COMMUNICATION TOOLS
Understanding of other cultures and customs	COMMUNICATION WITH OTHERS

Table 7.21 Most important competencies according to the Areas

Important		Scarce	Category
3.77		3.77	GENERAL CULTURE
35.85		9.43	COMMUNICATION TOOLS
15.09		9.43	COMMUNICATION WITH OTHERS
13.21		13.21	TEAM WORK
1.89		7.55	INNOVATION
9.43		7.55	LEADERSHIP
0		3.77	APPEARANCE
3.77		15.09	PERSONAL EFFICIENCY
0		5.66	EMOTIONAL INTELLIGENCE
1.89		1.89	MARKETING
1.89		7.55	TIC
3.77		0	OPERATION
7.55		3.77	ENGINEERING
0		3.77	STATISTICS
1.89		5.66	MATHEMATICS
0		0	DATA ANALYSIS
0		1.89	FINANCING -ACCOUNTING

40 35 30 25 20 15 10 5 0 5 10 15 20

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

80 por ciento de las empresas en Chihuahua emplea a través de contratos parciales, temporales o por proyecto.

Important	Categorías
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Detection of opportunities of improvement in processes	INNOVATION
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
• Scarce	

REPORT: COMPETENCIES BY STATE

COAHUILA

Yes 20%

No 80%

Table 7.22 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.23 Most important competencies according to Human Resources

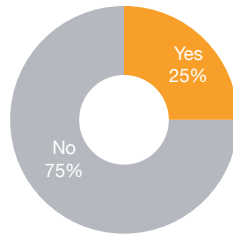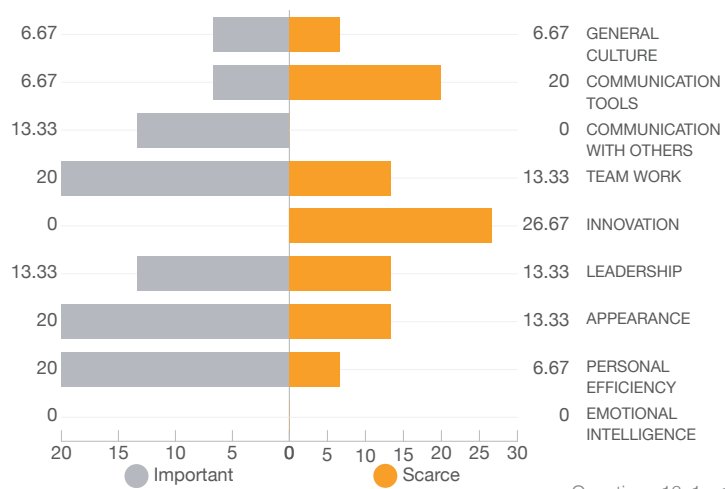| Important		Scarce
40	GENERAL CULTURE	33.33
33.33	COMMUNICATION TOOLS	20
6.67	COMMUNICATION WITH OTHERS	0
6.67	TEAM WORK	20
0	INNOVATION	6.67
0	LEADERSHIP	6.67
6.67	APPEARANCE	6.67
6.67	PERSONAL EFFICIENCY	0
0	EMOTIONAL INTELLIGENCE	6.67

⬤ Important   🟠 Scarce

Important	Competences
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Written communication in English	COMMUNICATION TOOLS
Oral communication in English	COMMUNICATION TOOLS
• Scarce	

Table 7.24 Most important competencies according to the Areas

Important		Scarce
33.33	GENERAL CULTURE	10
10	COMMUNICATION TOOLS	6.67
3.33	COMMUNICATION WITH OTHERS	13.33
13.33	TEAM WORK	26.67
3.33	INNOVATION	0
0	LEADERSHIP	10
6.67	APPEARANCE	6.67
10	PERSONAL EFFICIENCY	10
3.33	EMOTIONAL INTELLIGENCE	3.33
3.33	MARKETING	3.33
3.33	TIC	0
3.33	OPERATION	3.33
3.33	ENGINEERING	3.33
0	STATISTICS	0
0	MATHEMATICS	0
0	DATA ANALYSIS	3.33
3.33	FINANCING -ACCOUNTING	0

35 30 25 20 15 10 5 0 0 5 10 15 20 25 30

● Important ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Task distribution in work teams	TEAM WORK
Programming languages	TIC
• Scarce	

73 por ciento de las empresas considera que los trabajos previos tienen un impacto significativo sobre el desempeño profesional de los jóvenes.

COLIMA

Yes 20%

No 80%

Table 7.25 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.26 Most important competencies according to Human Resources

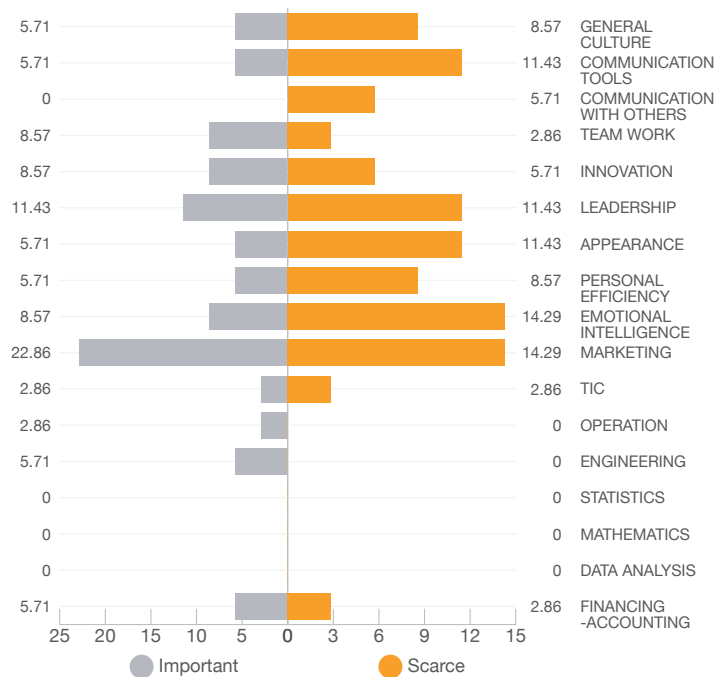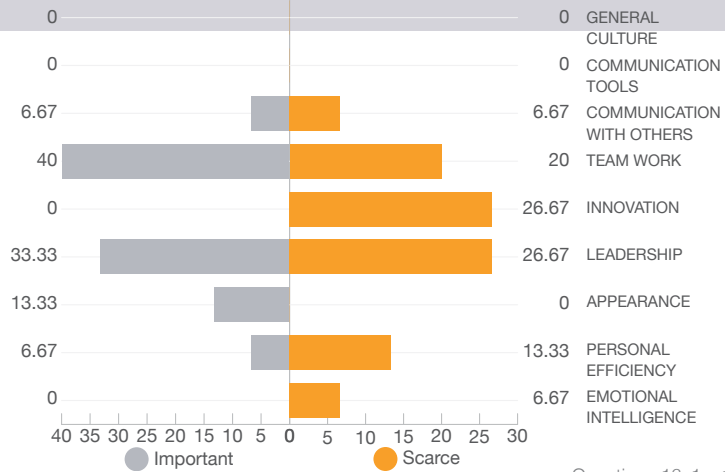| Important		Scarce	
0		20	GENERAL CULTURE
0		0	COMMUNICATION TOOLS
13.33		6.67	COMMUNICATION WITH OTHERS
13.33		13.33	TEAM WORK
13.33		13.33	INNOVATION
20		6.67	LEADERSHIP
6.67		20	APPEARANCE
26.67		0	PERSONAL EFFICIENCY
6.67		20	EMOTIONAL INTELLIGENCE

30 25 20 15 10 5 0 5 10 15 20
● Important   ● Scarce

Important	Competences
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Written communication in Spanish	COMMUNICATION TOOLS
Clear and logical argumentation	COMMUNICATION WITH OTHERS
Basic knowledge in administration	GENERAL CULTURE
Communication in general in a language other than Spanish	COMMUNICATION TOOLS
• Scarce	

Table 7.27 Most important competencies according to the Areas

Important	Scarce	
2.86	11.43	GENERAL CULTURE
8.57	8.57	COMMUNICATION TOOLS
8.57	5.71	COMMUNICATION WITH OTHERS
14.29	2.86	TEAM WORK
8.57	17.14	INNOVATION
11.43	20	LEADERSHIP
8.57	5.71	APPEARANCE
14.29	14.29	PERSONAL EFFICIENCY
0	5.71	EMOTIONAL INTELLIGENCE
5.71	0	MARKETING
2.86	0	TIC
2.86	0	OPERATION
5.71	2.86	ENGINEERING
0	2.86	STATISTICS
0	0	MATHEMATICS
5.71	2.86	DATA ANALYSIS
0	0	FINANCING-ACCOUNTING

Questions 16_1 y 16_1_1 HR questioneer

La mayoría de las empresas (40 por ciento) no cuenta con algún mecanismo para capacitar a su personal profesional cuando no cubre satisfactoriamente todas las competencias que se requieren para una plaza.

Important	Competences
Effective public speaking	COMMUNICATION WITH OTHERS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Written communication in Spanish	COMMUNICATION TOOLS
Knowing how to listen to others	TEAM WORK
Talent training	COMMUNICATION WITH OTHERS

REPORT: COMPETENCIES BY STATE

DISTRITO FEDERAL

No 56%

Yes 44%

Table 7.28 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.29 Most important competencies according to Human Resources

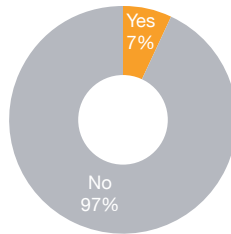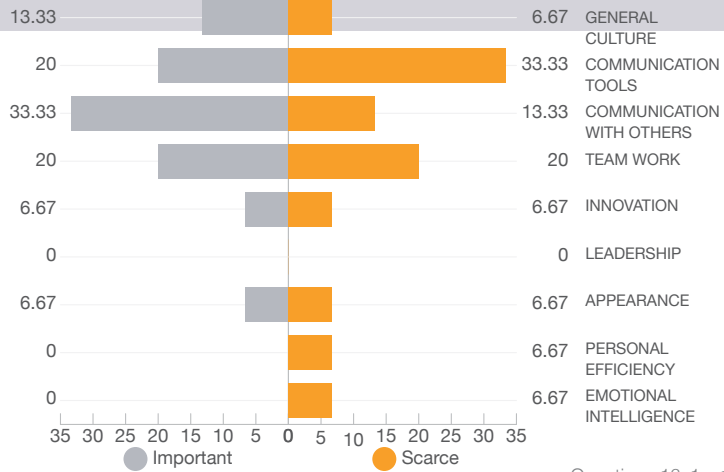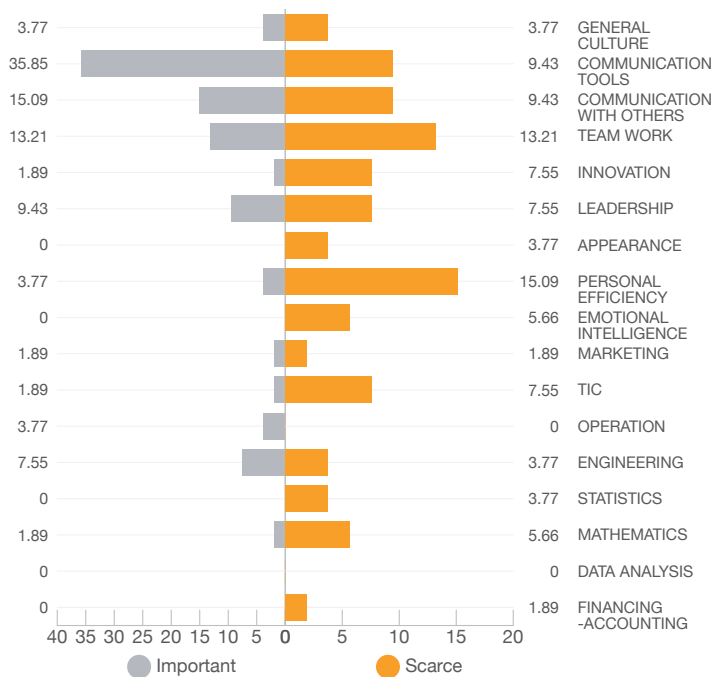| Important		Scarce	Competency
10.34		10.34	GENERAL CULTURE
17.24		10.34	COMMUNICATION TOOLS
3.45		17.24	COMMUNICATION WITH OTHERS
24.14		13.79	TEAM WORK
3.45		3.45	INNOVATION
10.34		24.14	LEADERSHIP
10.34		3.45	APPEARANCE
13.79		6.9	PERSONAL EFFICIENCY
6.9		10.34	EMOTIONAL INTELLIGENCE

⬤ Important   ⬤ Scarce

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Willingness to learn	PERSONAL EFFICIENCY
Talent training	COMMUNICATION WITH OTHERS
• Scarce	

6

Table 7.30 Most important competencies according to the Areas

Important			Scarce
7.84		13.73	GENERAL CULTURE
13.73		15.69	COMMUNICATION TOOLS
13.73		3.92	COMMUNICATION WITH OTHERS
11.76		9.8	TEAM WORK
7.84		7.84	INNOVATION
9.8		9.8	LEADERSHIP
3.92		9.8	APPEARANCE
1.96		3.92	PERSONAL EFFICIENCY
1.96		1.96	EMOTIONAL INTELLIGENCE
3.92		1.96	MARKETING
3.92		5.88	TIC
0		3.92	OPERATION
1.96		3.92	ENGINEERING
1.96		3.92	STATISTICS
1.96		1.96	MATHEMATICS
3.92		1.96	DATA ANALYSIS
9.8		0	FINANCING -ACCOUNTING

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Communication in general in a language other than Spanish	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Knowledge and basic management of accounting	FINANCING- ACCOUNTING
● Scarce	

20 por ciento de las empresas utiliza las bolsas de trabajo en línea como fuente de contacto principal para reclutar jóvenes.
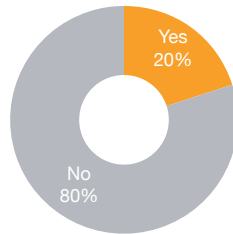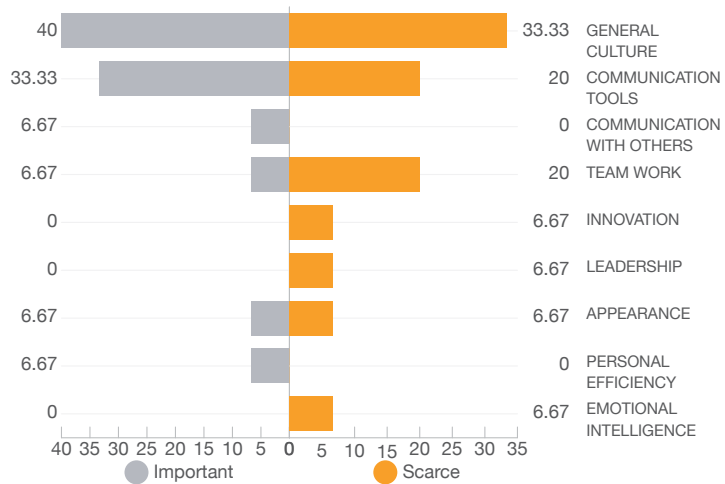
DURANGO

No
100%

Table 7.31 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

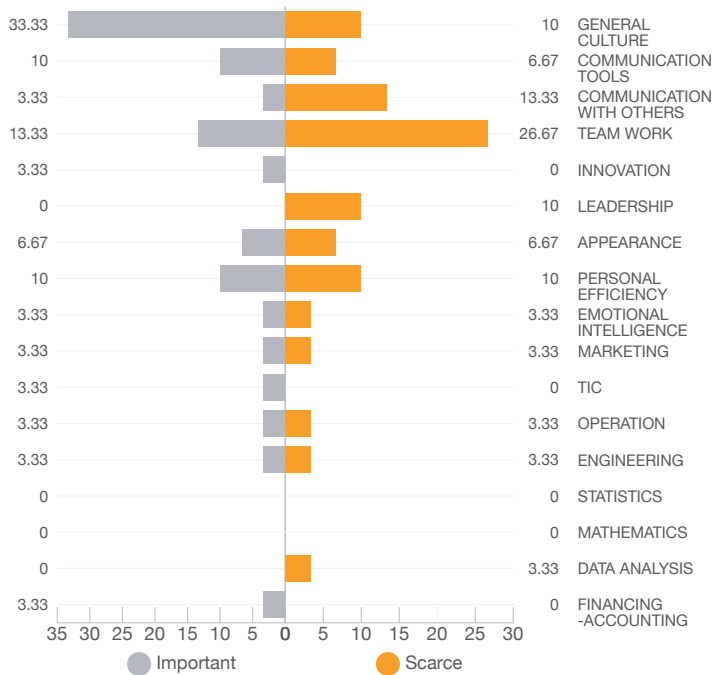**Table 7.32** Most important competencies according to Human Resources

Important		Scarce	Competency
6.67		10.34	GENERAL CULTURE
26.67		10.34	COMMUNICATION TOOLS
13.33		17.24	COMMUNICATION WITH OTHERS
13.33		13.79	TEAM WORK
6.67		3.45	INNOVATION
20		24.14	LEADERSHIP
6.67		3.45	APPEARANCE
6.67		6.9	PERSONAL EFFICIENCY
0		10.34	EMOTIONAL INTELLIGENCE

⬤ Important   ⬤ Scarce

Important	Competences
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
Oral communication in English	COMMUNICATION TOOLS
Talent training	COMMUNICATION WITH OTHERS
• Scarce	

6

Table 7. 33 Most important competencies according to the Areas

	Important	Scarce	
0		16.67	GENERAL CULTURE
3.33		0	COMMUNICATION TOOLS
13.33		3.33	COMMUNICATION WITH OTHERS
10		0	TEAM WORK
0		3.33	INNOVATION
53.33		3.33	LEADERSHIP
3.33		3.33	APPEARANCE
0		3.33	PERSONAL EFFICIENCY
0		0	EMOTIONAL INTELLIGENCE
10		0	MARKETING
0		6.67	TIC
0		3.33	OPERATION
6.67		6.67	ENGINEERING
0		26.67	STATISTICS
0		20	MATHEMATICS
0		3.33	DATA ANALYSIS
0		0	FINANCING-ACCOUNTING

Questions 16_1 y 16_1_1 HR questioneer

La principal fuente de reclutamiento en Durango es la bolsa de trabajo de gobierno o municipal (40 por ciento).

Important	Competences
Sales skills	MARKETING
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Attention to detail	EMOTIONAL INTELLIGENCE
Effective public speaking	COMMUNICATION WITH OTHERS
Written communication in Spanish	COMMUNICATION TOOLS
• Scarce	

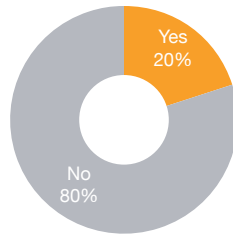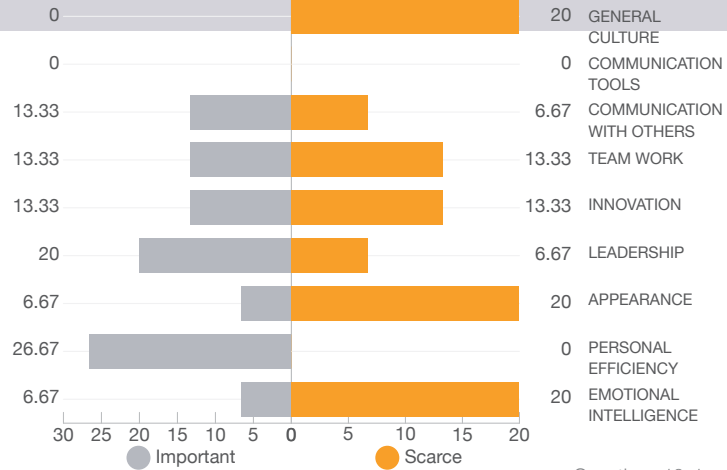# REPORT: COMPETENCIES BY STATE

ESTADO DE MÉXICO

No 52%
Yes 48%

Table 7.34 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

HR questioneer question 61

Table 7.35 Most important competencies according to Human Resources
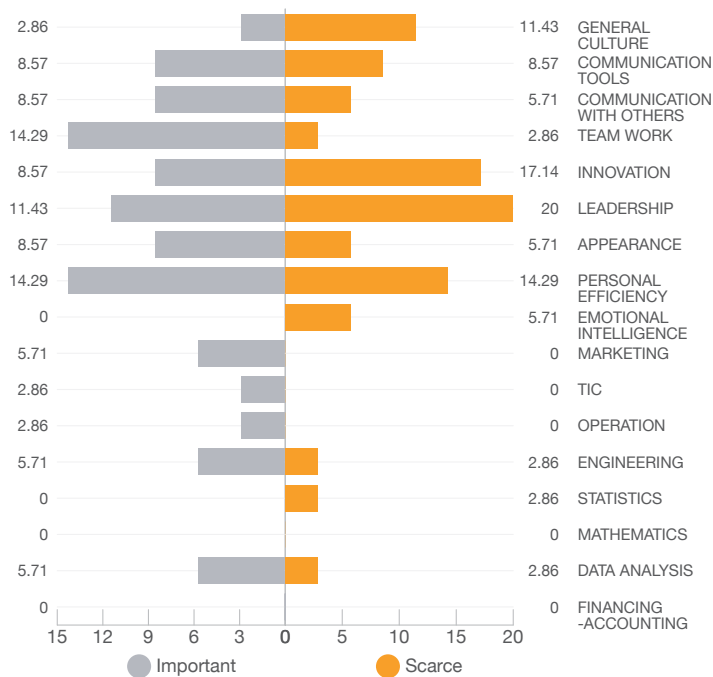
Important		Scarce	Competency
4.35		21.74	GENERAL CULTURE
4.35		0	COMMUNICATION TOOLS
8.7		4.35	COMMUNICATION WITH OTHERS
30.43		0	TEAM WORK
21.74		17.39	INNOVATION
8.7		13.04	LEADERSHIP
4.35		17.39	APPEARANCE
8.7		4.35	PERSONAL EFFICIENCY
8.7		21.74	EMOTIONAL INTELLIGENCE

● Important   ● Scarse

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Oral communication in English	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Written communication in English	COMMUNICATION TOOLS
Basic knowledge in administration	GENERAL CULTURE
• Scarce	

Table 7.36 Most important competencies according to the Areas

Important		Scarce
3.85	GENERAL CULTURE	11.54
15.38	COMMUNICATION TOOLS	23.08
11.54	COMMUNICATION WITH OTHERS	19.23
15.38	TEAM WORK	7.69
7.69	INNOVATION	0
11.54	LEADERSHIP	3.85
3.85	APPEARANCE	11.54
0	PERSONAL EFFICIENCY	0
0	EMOTIONAL INTELLIGENCE	3.85
7.69	MARKETING	3.85
0	TIC	0
0	OPERATION	0
7.69	ENGINEERING	3.85
0	STATISTICS	0
0	MATHEMATICS	0
0	DATA ANALYSIS	0
15.38	FINANCING -ACCOUNTING	11.54

● Important 🟠 Scarce

Questions 16_1 y 16_1_1 HR questioneer

61 por ciento de las empresas en el Estado de México emplea a jóvenes con un título pro- fesional de alguna IES.

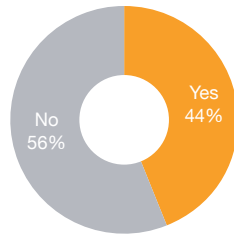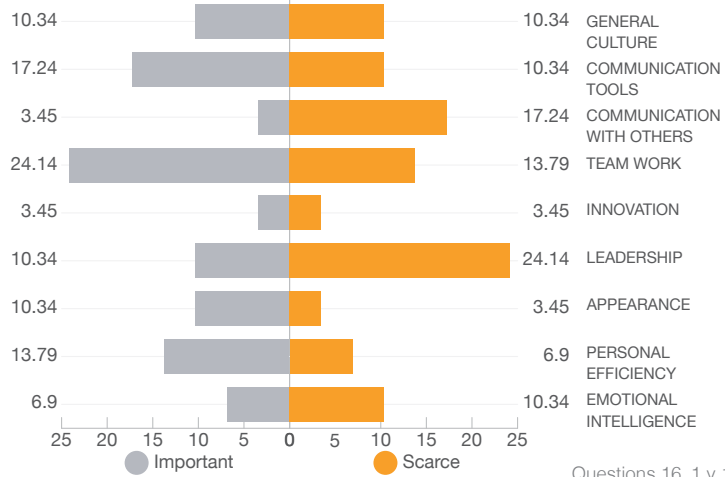| Important	Competences
Oral communication in Spanish	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Discerning tendencies, patterns, and relationships among variables	DATA ANALYSIS
Basic knowledge in administration	GENERAL CULTURE
Written communication in English	COMMUNICATION TOOLS
• Scarce	

REPORT: COMPETENCIES BY STATE

GUANAJUATO

Yes
8%

No
92%

Table 7.37 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

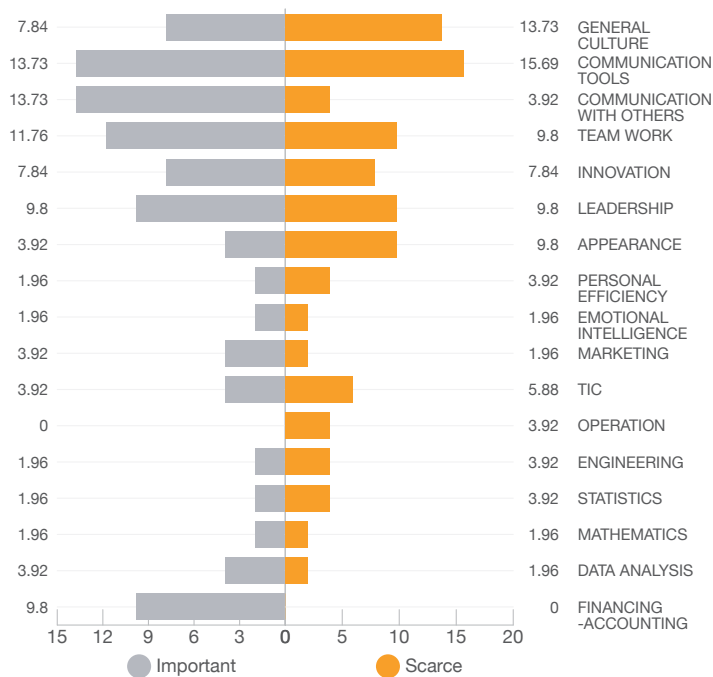**Table 7.38** Most important competencies according to Human Resources

Important		Scarce	Competency
0		33.33	GENERAL CULTURE
20		0	COMMUNICATION TOOLS
6.67		6.67	COMMUNICATION WITH OTHERS
13.33		6.67	TEAM WORK
20		6.67	INNOVATION
6.67		40	LEADERSHIP
0		0	APPEARANCE
13.33		0	PERSONAL EFFICIENCY
20		6.67	EMOTIONAL INTELLIGENCE

Important	Competences
Knowledge of how to treat a client	APPEARANCE
Coordination of work teams	TEAM WORK
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
Oral communication in Spanish	COMMUNICATION TOOLS

La principal fuente de reclutamiento en Guanajuato es el periódico (60 por ciento).

Table 7.39 Most important competencies according to the Areas

	Important	Scarce
GENERAL CULTURE	0	12.5
COMMUNICATION TOOLS	0	6.25
COMMUNICATION WITH OTHERS	0	0
TEAM WORK	12.5	6.25
INNOVATION	0	25
LEADERSHIP	0	31.25
APPEARANCE	0	0
PERSONAL EFFICIENCY	0	0
EMOTIONAL INTELLIGENCE	0	12.5
MARKETING	31.25	0
TIC	0	0
OPERATION	12.5	0
ENGINEERING	18.75	0
STATISTICS	6.25	0
MATHEMATICS	0	0
DATA ANALYSIS	0	6.25
FINANCING -ACCOUNTING	18.75	0

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Implementation of new projects	INNOVATION
Market research	MARKETING
Sales skills	MARKETING
Basic knowledge in administration	GENERAL CULTURE
• Scarce	

REPORT: COMPETENCIES BY STATE

GUERRERO

Yes 33%
No 67%

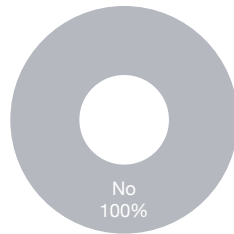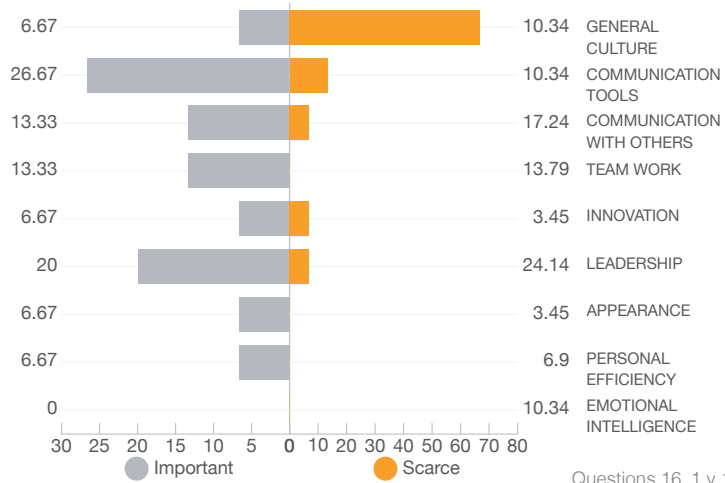**Table 7.40** Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

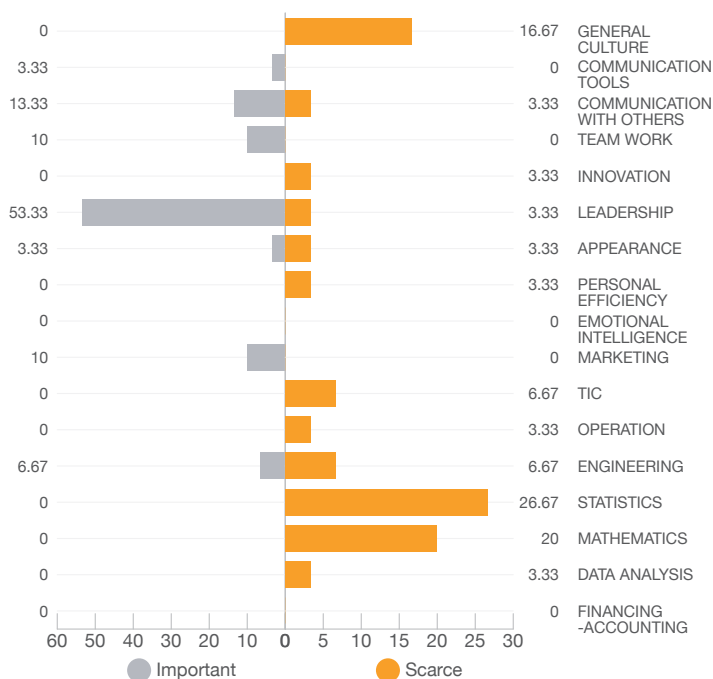**Table 7.41** Most important competencies according to Human Resources

Important		Scarce	
26.67	GENERAL CULTURE	13.33	
6.67	COMMUNICATION TOOLS	6.67	
6.67	COMMUNICATION WITH OTHERS	0	
53.33	TEAM WORK	6.67	
0	INNOVATION	13.33	
0	LEADERSHIP	40	
0	APPEARANCE	13.33	
0	PERSONAL EFFICIENCY	0	
6.67	EMOTIONAL INTELLIGENCE	6.67	

Important — Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS

Table 7.42 Most important competencies according to the Areas

Important		Scarce
6.67	GENERAL CULTURE	23.33
6.67	COMMUNICATION TOOLS	0
20	COMMUNICATION WITH OTHERS	6.67
30	TEAM WORK	13.33
6.67	INNOVATION	3.33
6.67	LEADERSHIP	23.33
3.33	APPEARANCE	6.67
10	PERSONAL EFFICIENCY	6.67
3.33	EMOTIONAL INTELLIGENCE	3.33
3.33	MARKETING	3.33
0	TIC	0
0	OPERATION	3.33
0	ENGINEERING	3.33
0	STATISTICS	0
0	MATHEMATICS	3.33
0	DATA ANALYSIS	0
3.33	FINANCING -ACCOUNTING	0

30 25 20 15 10 5 0 5 10 15 20 25

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

87 por ciento de las empresas entrevistadas ofrece cursos internos para capacitar jóvenes profesionales que no cuentan con las competencias necesarias.

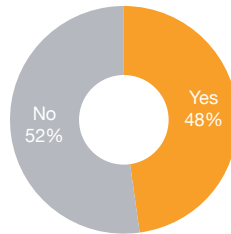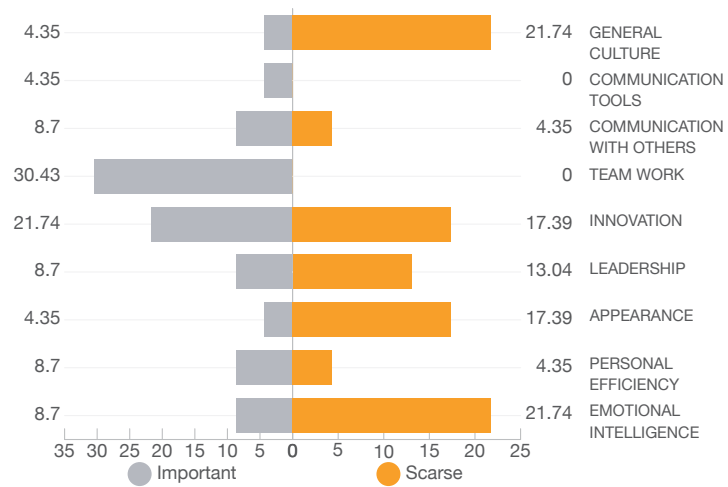| Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Oral communication in Spanish	COMMUNICATION TOOLS
Agile and accurate decision-making	LEADERSHIP
Sense of responsibility	LEADERSHIP
• Scarce	

REPORT:
COMPETENCIES
BY STATE

HIDALGO

No 54%
Yes 46%

Table 7.43 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

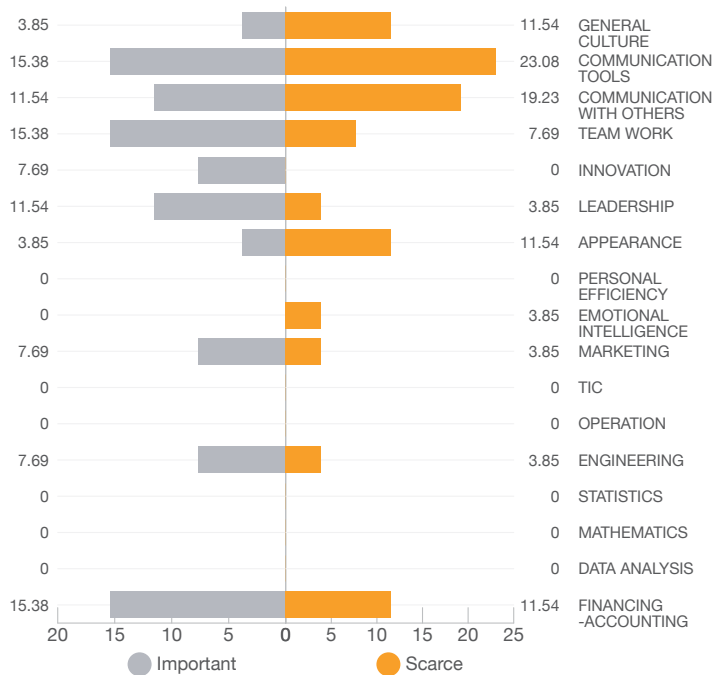**Table 7.44** Most important competencies according to Human Resources

Important		Scarce
0	GENERAL CULTURE	14.29
7.14	COMMUNICATION TOOLS	0
0	COMMUNICATION WITH OTHERS	0
14.29	TEAM WORK	21.43
21.43	INNOVATION	21.43
14.29	LEADERSHIP	14.29
7.14	APPEARANCE	7.14
7.14	PERSONAL EFFICIENCY	21.43
28.57	EMOTIONAL INTELLIGENCE	0

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Basic knowledge in recruitment	GENERAL CULTURE
Oral communication in Spanish	COMMUNICATION TOOLS
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS

Table 7.45 Most important competencies according to the Areas

	Important	Scarce	
20		26.67	GENERAL CULTURE
0		0	COMMUNICATION TOOLS
0		6.67	COMMUNICATION WITH OTHERS
26.67		0	TEAM WORK
13.33		13.33	INNOVATION
0		6.67	LEADERSHIP
6.67		26.67	APPEARANCE
20		13.33	PERSONAL EFFICIENCY
0		0	EMOTIONAL INTELLIGENCE
0		0	MARKETING
13.33		0	TIC
0		0	OPERATION
0		0	ENGINEERING
0		0	STATISTICS
0		6.67	MATHEMATICS
0		0	DATA ANALYSIS
0		0	FINANCING -ACCOUNTING

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Task distribution in work teams	TEAM WORK
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Capacity of information synthesis	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
• Scarce	

La mayoría de las empresas (50 por ciento) considera que la familia tiene un impacto significativo sobre el desempeño profesional de los jóvenes.

REPORT: COMPETENCIES BY STATE

JALISCO

Yes 20%
No 80%

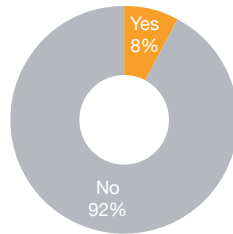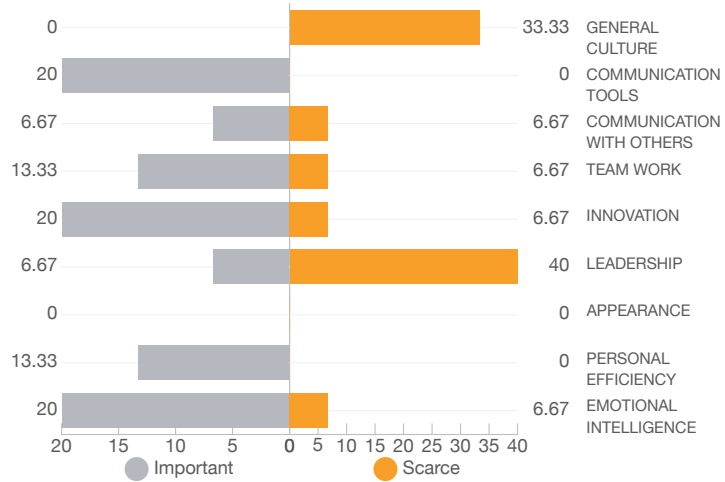**Table 7.46** Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

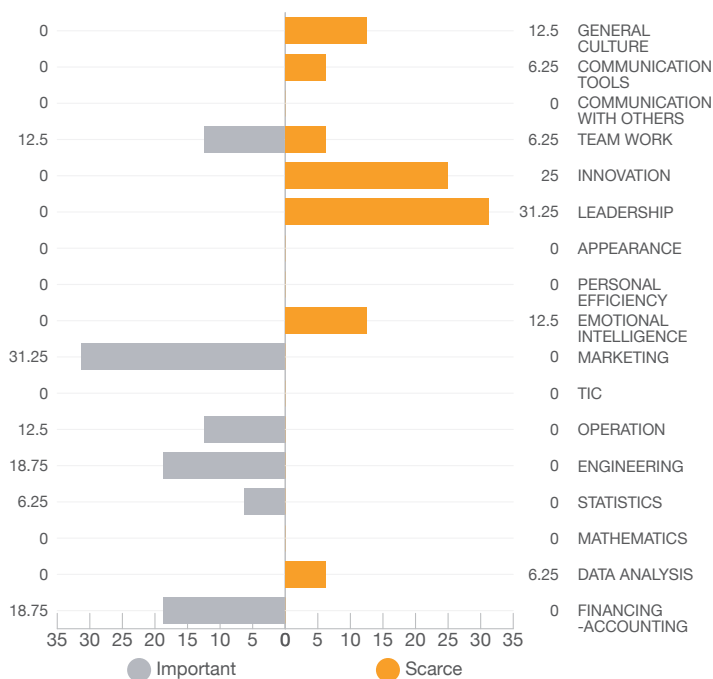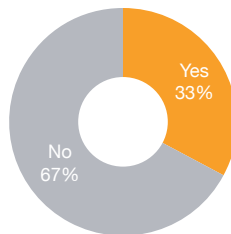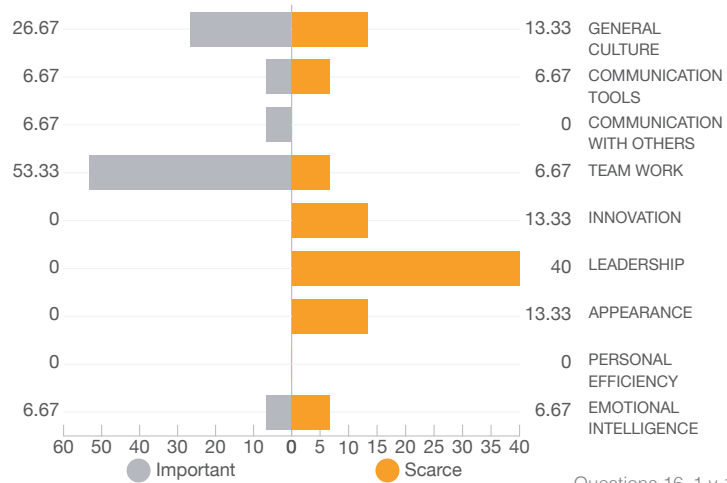**Table 7.47** Most important competencies according to Human Resources

	Important	Scarce	
6.67		6.67	GENERAL CULTURE
0		26.67	COMMUNICATION TOOLS
0		0	COMMUNICATION WITH OTHERS
46.67		6.67	TEAM WORK
6.67		13.33	INNOVATION
0		13.33	LEADERSHIP
20		26.67	APPEARANCE
13.33		6.67	PERSONAL EFFICIENCY
6.67		0	EMOTIONAL INTELLIGENCE

Important	Competences
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS
Basic knowledge in recruitment	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
Written communication in English	COMMUNICATION TOOLS

Table 7.48 Most important competencies according to the Areas

Important		Area		Scarce
2.13		GENERAL CULTURE		0
4.26		COMMUNICATION TOOLS		10.64
6.38		COMMUNICATION WITH OTHERS		14.89
10.64		TEAM WORK		10.64
6.38		INNOVATION		8.51
10.64		LEADERSHIP		14.89
6.38		APPEARANCE		8.51
8.51		PERSONAL EFFICIENCY		8.51
8.51		EMOTIONAL INTELLIGENCE		6.38
14.89		MARKETING		2.13
12.77		TIC		10.64
8.51		OPERATION		2.13
0		ENGINEERING		0
0		STATISTICS		0
0		MATHEMATICS		0
0		DATA ANALYSIS		0
0		FINANCING -ACCOUNTING		2.13

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Basic knowledge in administration	GENERAL CULTURE
Clear and logical argumentation	COMMUNICATION WITH OTHERS
Self-knowledge of strengths and weaknesses	TEAM WORK
• Scarce	

El principal problema para contratar jóvenes es que demuestran aspiraciones salariales muy altas (27 por ciento).

MICHOACÁN

No 53%

Yes 47%

Table 7.49 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

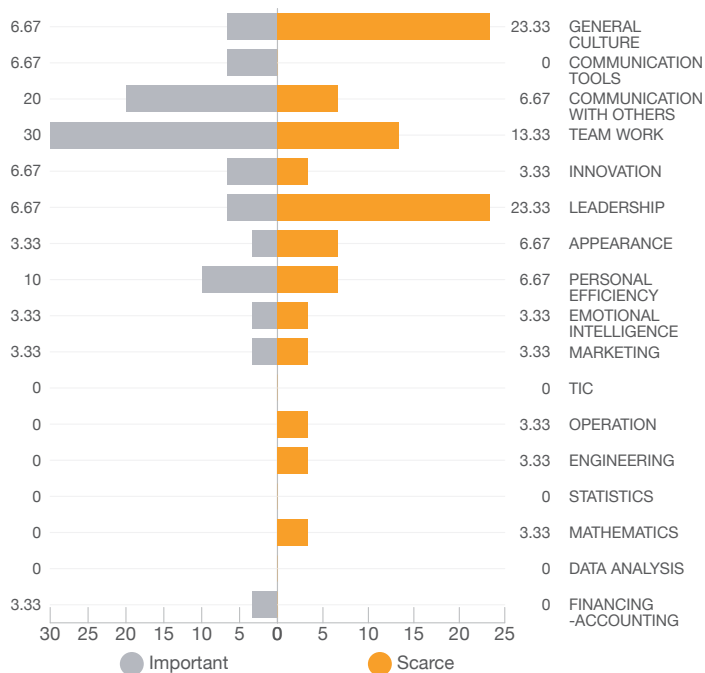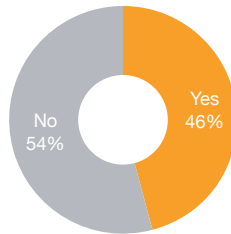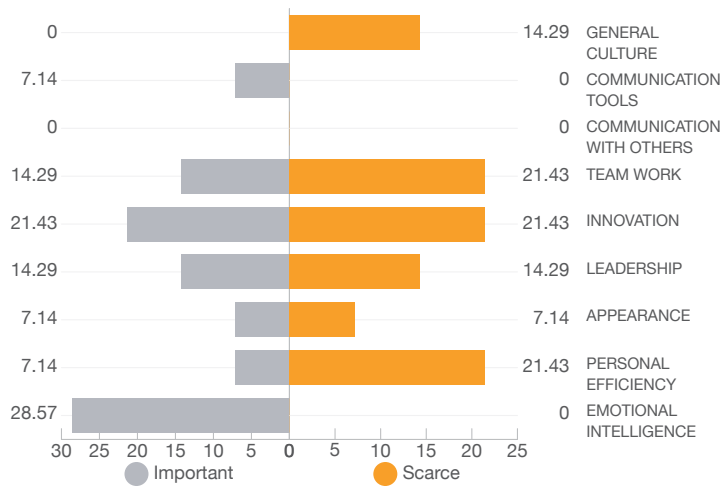**Table 7.50** Most important competencies according to Human Resources

Importante		Scarce
18.75	GENERAL CULTURE	25
6.25	COMMUNICATION TOOLS	6.25
12.5	COMMUNICATION WITH OTHERS	6.25
37.5	TEAM WORK	18.75
18.75	INNOVATION	25
0	LEADERSHIP	0
0	APPEARANCE	0
6.25	PERSONAL EFFICIENCY	0
0	EMOTIONAL INTELLIGENCE	18.75

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Initiative or proactiveness	LEADERSHIP
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Sense of responsibility	LEADERSHIP
Efficient time management	PERSONAL EFFICIENCY
Basic knowledge in administration	GENERAL CULTURE

Table 7.51 Most important competencies according to the Areas

	Important	Scarce	Area
	5.56	11.11	GENERAL CULTURE
	11.11	5.56	COMMUNICATION TOOLS
	0	0	COMMUNICATION WITH OTHERS
	16.67	5.56	TEAM WORK
	0	5.56	INNOVATION
	11.11	16.67	LEADERSHIP
	0	0	APPEARANCE
	5.56	22.22	PERSONAL EFFICIENCY
	0	0	EMOTIONAL INTELLIGENCE
	0	11.11	MARKETING
	0	5.56	TIC
	5.56	5.56	OPERATION
	33.33	11.11	ENGINEERING
	0	0	STATISTICS
	0	0	MATHEMATICS
	0	0	DATA ANALYSIS
	11.11	0	FINANCING -ACCOUNTING

35 30 25 20 -15 10 5 0 5 10 15 20 25
● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Clear and logical argumentation	COMMUNICATION WITH OTHERS
Prioritizing team objectives ahead of personal ones	TEAM WORK
Coordination of team work	TEAM WORK
• Scarce	

44 por ciento de las empresas ve la falta de experiencia de los jóvenes como principal problema para reclutarlos.

MORELOS

Yes
24%

No
76%

Table 7.52 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

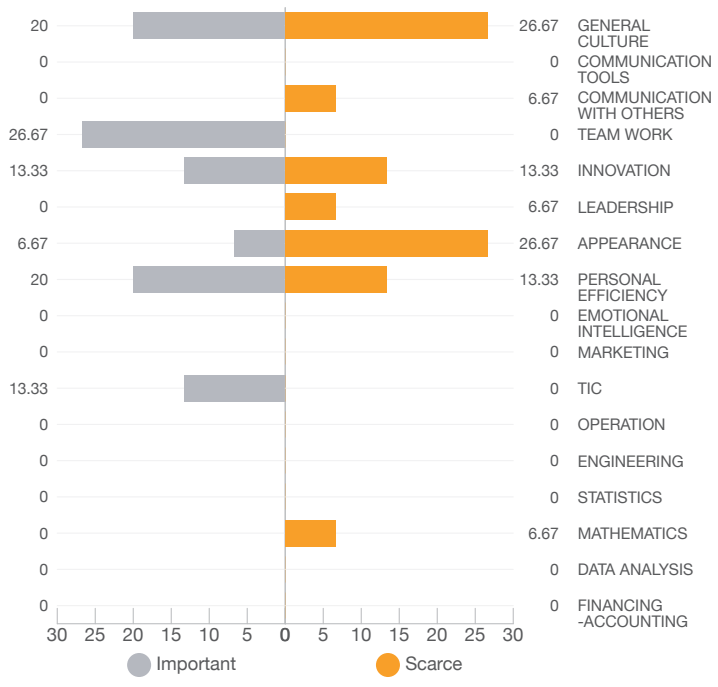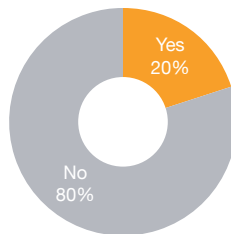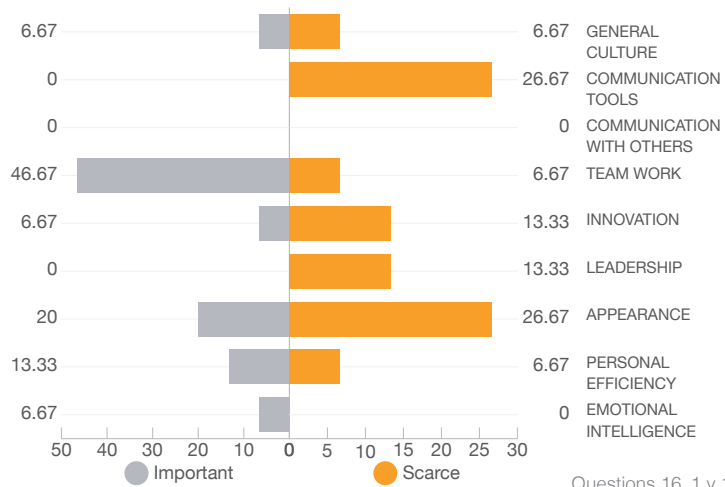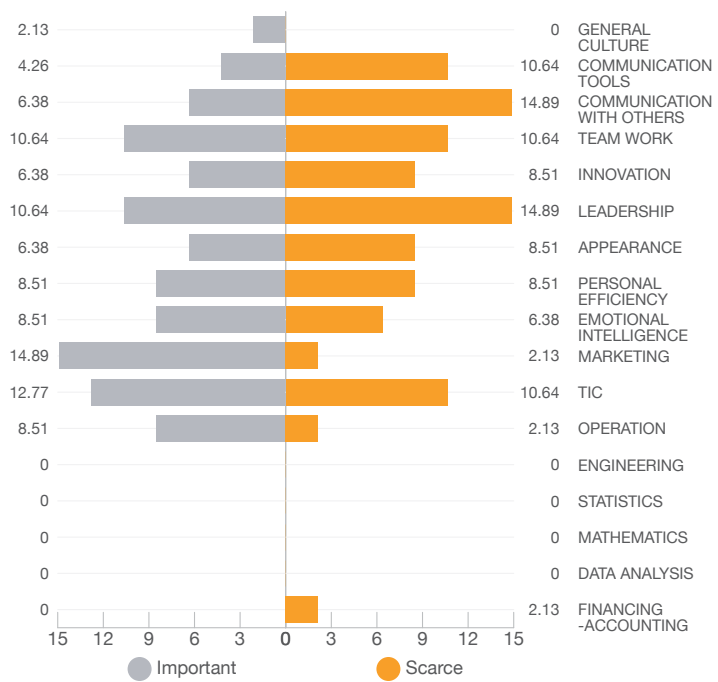**Table 7.53** Most important competencies according to Human Resources

Important		Scarce	Competency
0		11.76	GENERAL CULTURE
11.76		5.88	COMMUNICATION TOOLS
5.88		5.88	COMMUNICATION WITH OTHERS
47.06		5.88	TEAM WORK
17.65		5.88	INNOVATION
5.88		29.41	LEADERSHIP
11.76		23.53	APPEARANCE
0		5.88	PERSONAL EFFICIENCY
0		5.88	EMOTIONAL INTELLIGENCE

●Important   ●Scarce

Important	Competences
Basic knowledge in equipment and machinery use	General culture
Written communication in Spanish	Communication tools
Supplying and receiving biofeedback	Communication with others
Basic knowledge in political analysis	General culture
Basic knowledge in recruitment	General culture
• Scarce	

Table 7.54 Most important competencies according to the Areas

	Important	Scarce	
7.69		7.69	GENERAL CULTURE
15.38		0	COMMUNICATION TOOLS
15.38		7.69	COMMUNICATION WITH OTHERS
30.77		0	TEAM WORK
0		0	INNOVATION
7.69		38.46	LEADERSHIP
7.69		0	APPEARANCE
0		15.38	PERSONAL EFFICIENCY
0		7.69	EMOTIONAL INTELLIGENCE
7.69		7.69	MARKETING
7.69		0	TIC
0		0	OPERATION
0		7.69	ENGINEERING
0		7.69	STATISTICS
0		0	MATHEMATICS
0		0	DATA ANALYSIS
0		0	FINANCING -ACCOUNTING

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Basic knowledge in equipment and machinery use	General culture
Basic knowledge in legal analysis and regulation	General culture
Basic knowledge in recruitment	General culture
Oral communication in Spanish	Communication tools
Capacity of negotiation and conflict resolution	Communication with others
• Scarce	

La mayoría de las empresas reportó que el principal problema para contratar jóvenes (29 por ciento) es que no cuentan con los conocimientos técnicos específicos y que la escuela (53 por ciento) tiene mayor impacto sobre su desempeño profesional.
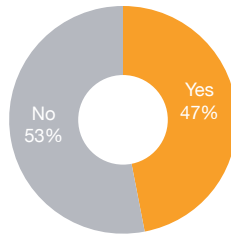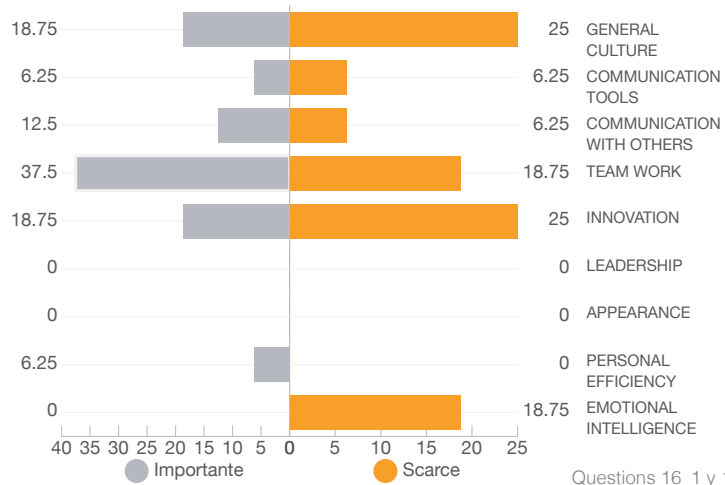
REPORT: COMPETENCIES BY STATE

NAYARIT

Yes
13%

No
87%

Table 7.55 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

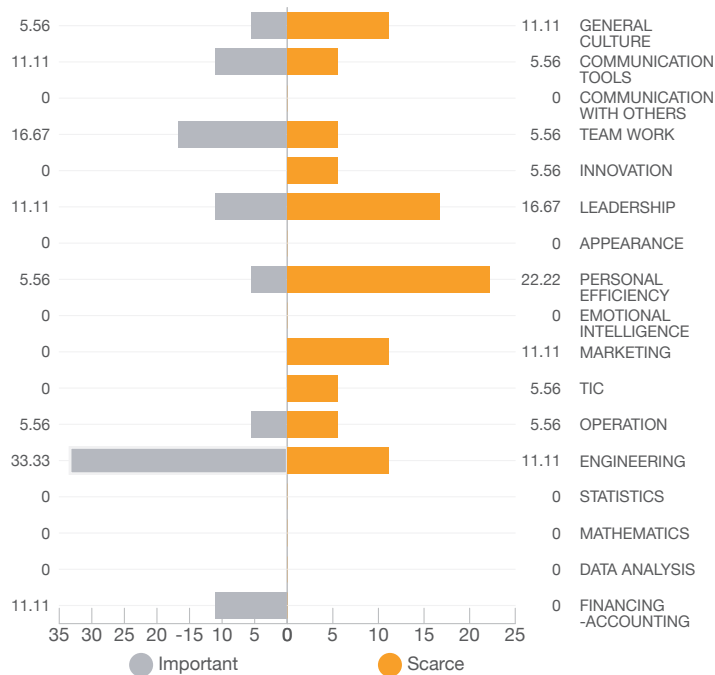**Table 7.56** Most important competencies according to Human Resources

Important		Scarce
0	GENERAL CULTURE	0
13.33	COMMUNICATION TOOLS	26.67
20	COMMUNICATION WITH OTHERS	20
13.33	TEAM WORK	20
26.67	INNOVATION	0
6.67	LEADERSHIP	6.67
0	APPEARANCE	13.33
20	PERSONAL EFFICIENCY	6.67
0	EMOTIONAL INTELLIGENCE	6.67

Important   Scarce

Important	Competences
Supplying and receiving biofeedback	Communication with others
Capacity of negotiation and conflict resolution	Communication with others
Oral communication in Spanish	Communication tools
Communication in general in a language other than Spanish	Communication tools
Capacity of information synthesis	Communication tools
• Scarce	

Table 7.57 Most important competencies according to the Areas

Important	0	0	GENERAL CULTURE	Scarce

(Chart data, left = Important, right = Scarce)

Important		Competency		Scarce
0		GENERAL CULTURE		0
6.67		COMMUNICATION TOOLS		6.67
3.33		COMMUNICATION WITH OTHERS		16.67
6.67		TEAM WORK		16.67
13.33		INNOVATION		6.67
20		LEADERSHIP		6.67
26.67		APPEARANCE		16.67
10		PERSONAL EFFICIENCY		20
10		EMOTIONAL INTELLIGENCE		0
0		MARKETING		3.33
0		TIC		3.33
3.33		OPERATION		0
0		ENGINEERING		3.33
0		STATISTICS		0
0		MATHEMATICS		0
0		DATA ANALYSIS		0
0		FINANCING -ACCOUNTING		0

Important ●   Scarce ●

Questions 16_1 y 16_1_1 HR questioneer

80 por ciento de los contratos de las empresas son contratos parciales, temporales o por proyecto.

Important	Competences
Capacity of negotiation and conflict resolution	Communication with others
Task distribution of work teams	Team work
Effective public speaking	Communication with others
Basic knowledge in administration	General culture
Written communication in Spanish	Communication tools
• Scarce	

NUEVO LEÓN

Yes
7%

No
93%

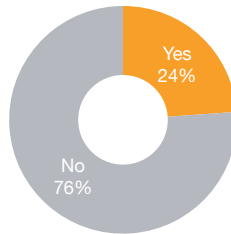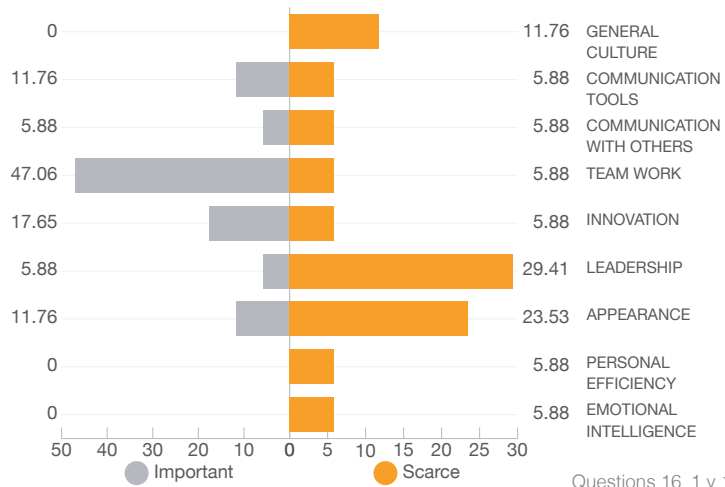**Table 7.58** Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

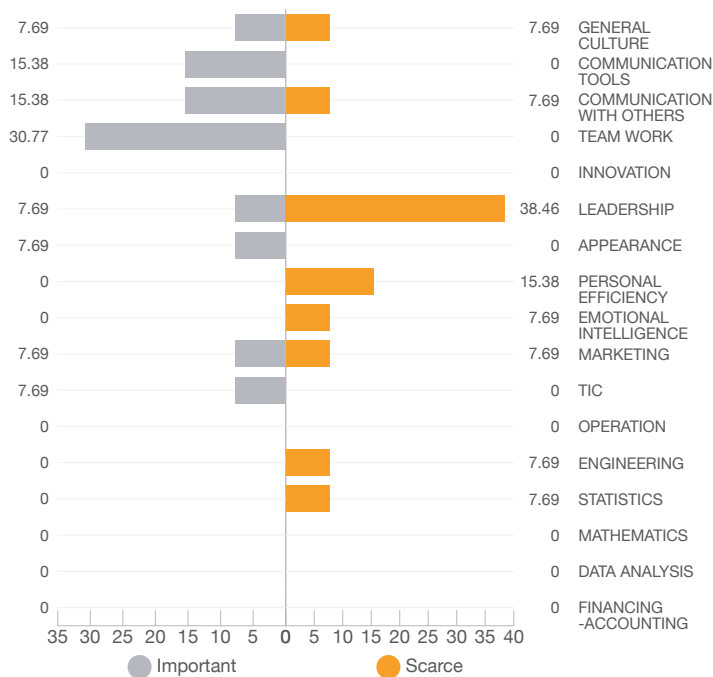**Table 7.59** Most important competencies according to Human Resources

Important		Scarce	
13.33	GENERAL CULTURE	40	
20	COMMUNICATION TOOLS	0	
20	COMMUNICATION WITH OTHERS	13.33	
26.67	TEAM WORK	13.33	
6.67	INNOVATION	6.67	
6.67	LEADERSHIP	0	
0	APPEARANCE	0	
6.67	PERSONAL EFFICIENCY	0	
0	EMOTIONAL INTELLIGENCE	26.67	

● Important   ● Scarce

Important	Categorías
Basic knowledge in recruitment	GENERAL CULTURE
Knowledge of how to treat a client	APPEARANCE
Basic knowledge in legal and regulatory analysis	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
• Scarce	

Table 7.60 Most important competencies according to the Areas

	Important		Scarce	
6.67		GENERAL CULTURE	16.67	
3.33		COMMUNICATION TOOLS	10	
6.67		COMMUNICATION WITH OTHERS	3.33	
30		TEAM WORK	0	
3.33		INNOVATION	10	
13.33		LEADERSHIP	13.33	
3.33		APPEARANCE	3.33	
6.67		PERSONAL EFFICIENCY	6.67	
3.33		EMOTIONAL INTELLIGENCE	3.33	
6.67		MARKETING	6.67	
3.33		TIC	10	
0		OPERATION	0	
3.33		ENGINEERING	13.33	
0		STATISTICS	0	
3.33		MATHEMATICS	0	
3.33		DATA ANALYSIS	0	
3.33		FINANCING -ACCOUNTING	3.33	

⬤ Important   ⬤ Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Categorías
Basic knowledge in recruitment	GENERAL CULTURE
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS
Assertive communication	TEAM WORK
Generation of new ideas	INNOVATION
Self-confidence	LEADERSHIP
• Scarce	

La mayoría de las empresas (53 por ciento) considera que la familia tiene un impacto significativo sobre el desempeño profesional de los jóvenes.
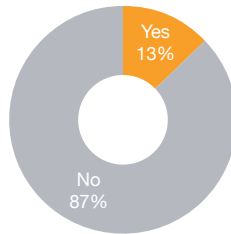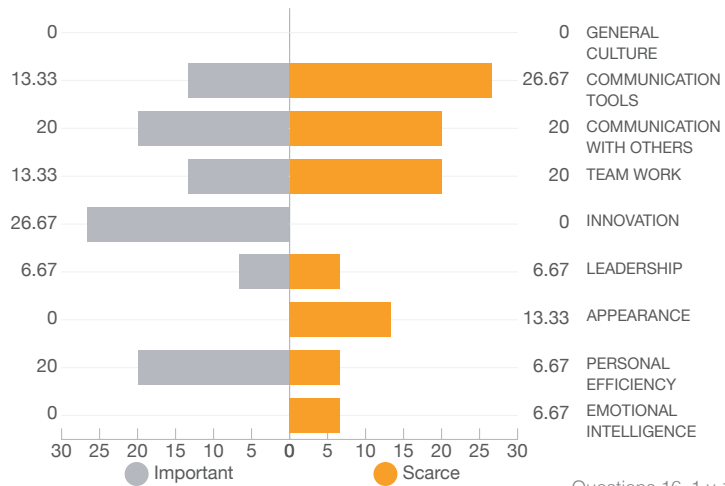
REPORT: COMPETENCIES BY STATE

OAXACA

Yes 14%

No 86%

Table 7.61 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.62 Most important competencies according to Human Resources

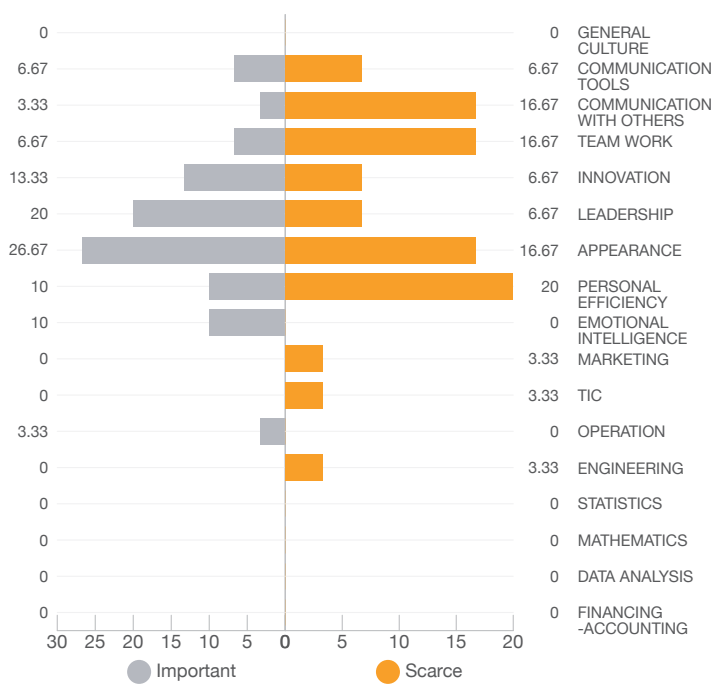| Important		Scarce	
14.29	GENERAL CULTURE	7.14	
0	COMMUNICATION TOOLS	21.43	
0	COMMUNICATION WITH OTHERS	14.29	
21.43	TEAM WORK	7.14	
7.14	INNOVATION	14.29	
7.14	LEADERSHIP	21.43	
7.14	APPEARANCE	7.14	
28.57	PERSONAL EFFICIENCY	0	
14.29	EMOTIONAL INTELLIGENCE	7.14	

⬤ Important   🟠 Scarce

Important	Categorías
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Oral communication in Spanish	COMMUNICATION TOOLS
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
• Scarce	

Table 7.63 Most important competencies according to the Areas

	Important	Scarce
GENERAL CULTURE	12.5	6.25
COMMUNICATION TOOLS	6.25	12.5
COMMUNICATION WITH OTHERS	12.5	12.5
TEAM WORK	25	6.25
INNOVATION	12.5	18.75
LEADERSHIP	6.25	31.25
APPEARANCE	0	0
PERSONAL EFFICIENCY	6.25	0
EMOTIONAL INTELLIGENCE	12.5	6.25
MARKETING	0	0
TIC	0	0
OPERATION	0	0
ENGINEERING	0	0
STATISTICS	0	0
MATHEMATICS	0	0
DATA ANALYSIS	0	6.25
FINANCING -ACCOUNTING	6.25	0

Questions 16_1 y 16_1_1 HR questioneer

El principal problema para contratar jóvenes es su falta de experiencia laboral (36 por ciento).

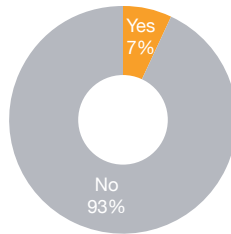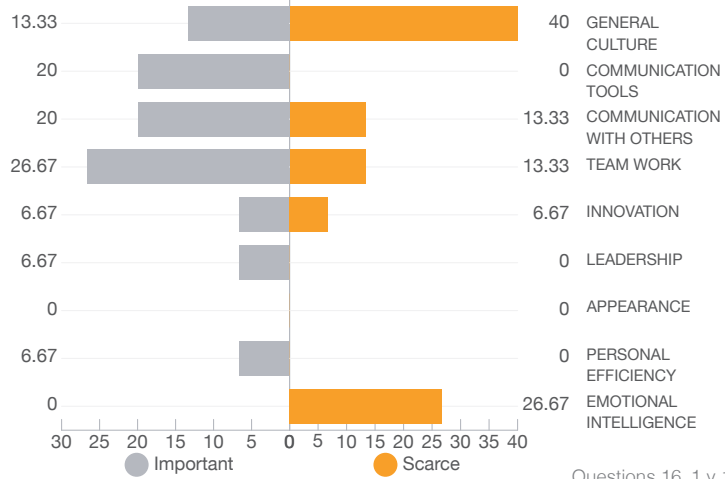| Important	Categorías
Oral communication in Spanish	COMMUNICATION TOOLS
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Detection of new business opportunities	INNOVATION
Generation and execution of marketing campaigns	MARKETING
Knowledge and basic management of mathematics	MATHEMATICS
• Scarce	

PUEBLA

Yes 10%

No 90%

Table 7.64 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

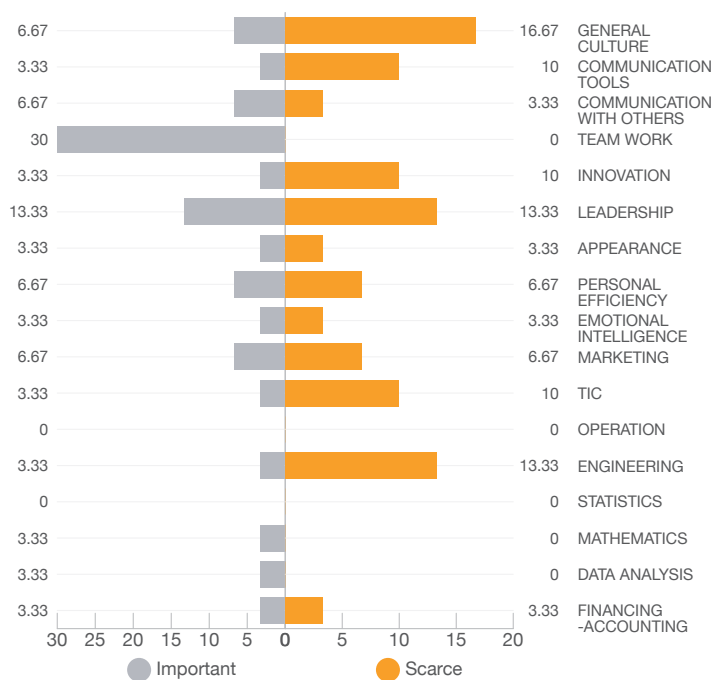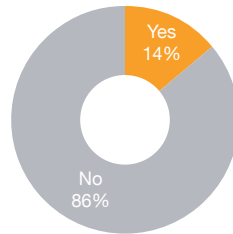**Table 7.65** Most important competencies according to Human Resources

Important	Scarce	Competency
0	7.69	GENERAL CULTURE
0	15.38	COMMUNICATION TOOLS
7.69	15.38	COMMUNICATION WITH OTHERS
23.08	0	TEAM WORK
23.08	7.69	INNOVATION
23.08	0	LEADERSHIP
7.69	30.77	APPEARANCE
7.69	7.69	PERSONAL EFFICIENCY
7.69	15.38	EMOTIONAL INTELLIGENCE

25 20 15 10 5 0 5 10 15 20 25 30 35

● Important   ● Scarce

Important	Competences
Oral communication in Spanish	COMMUNICATION TOOLS
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Capacity of information synthesis	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
• Scarce	

Table 7.66 Most important competencies according to the Areas

	2.5	GENERAL CULTURE
	5	COMMUNICATION TOOLS
	7.5	COMMUNICATION WITH OTHERS
	7.5	TEAM WORK
	7.5	INNOVATION
	12.5	LEADERSHIP
	5	APPEARANCE
	7.5	PERSONAL EFFICIENCY
	7.5	EMOTIONAL INTELLIGENCE
	12.5	MARKETING
	0	TIC
	0	OPERATION
	5	ENGINEERING
	12.5	STATISTICS
	2.5	MATHEMATICS
	2.5	DATA ANALYSIS
	2.5	FINANCING-ACCOUNTING

⬤ Important   🟠 Scarce

Questions 16_1 y 16_1_1 HR questioneer

Las empresas en Puebla reportaron emplear el mayor porcentaje de personas con posgrado terminado (31 por ciento).

Important	Competences
Basic knowledge in administration	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Oral communication in English	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Capacity of information synthesis	COMMUNICATION TOOLS
• Scarce	

REPORT: COMPETENCIES BY STATE

QUERÉTARO

No 50% Yes 50%

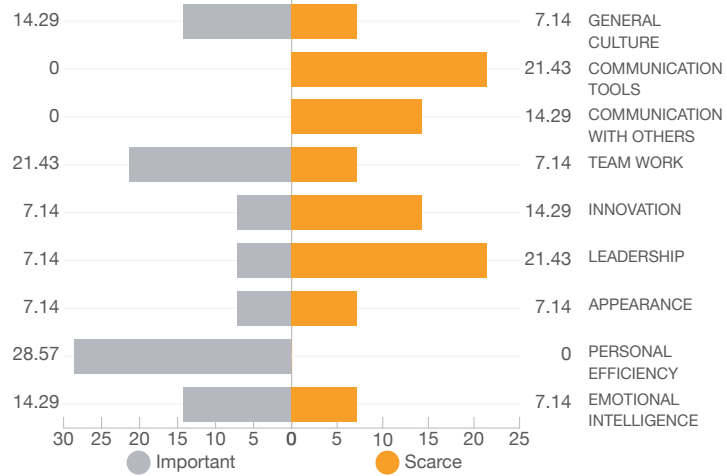**Table 7.67** Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

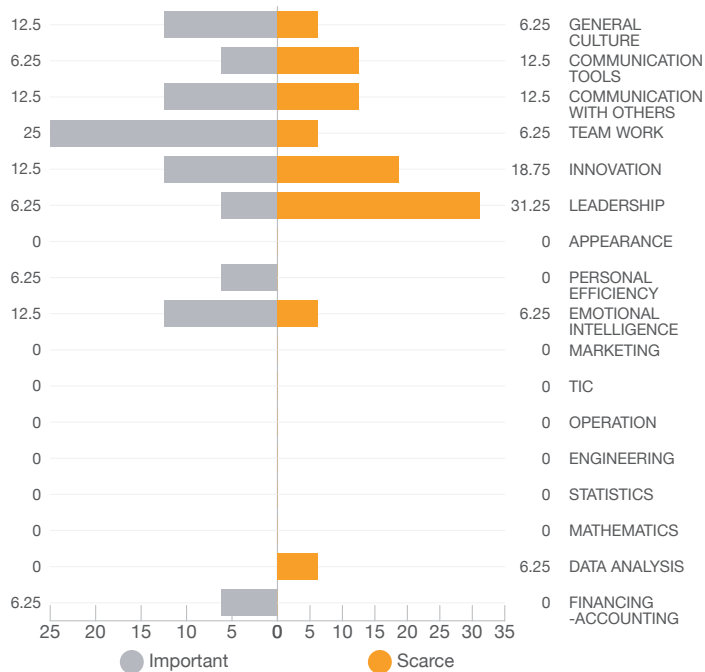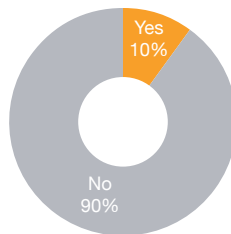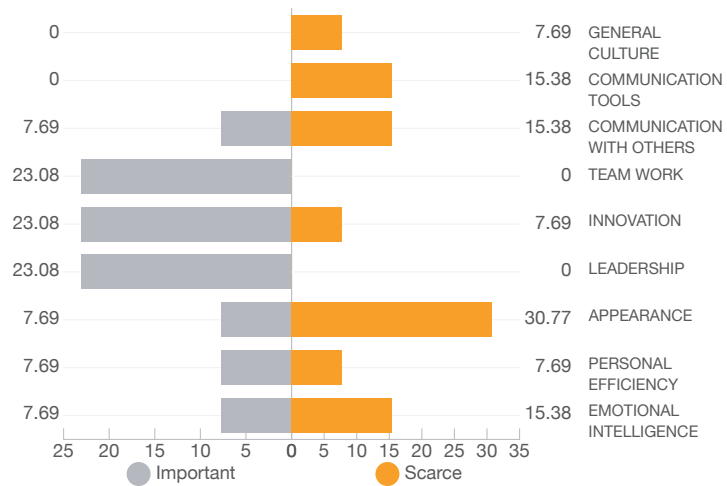**Table 7.68** Most important competencies according to Human Resources

Important		Scarce	
7.14	GENERAL CULTURE	21.43	
14.29	COMMUNICATION TOOLS	0	
7.14	COMMUNICATION WITH OTHERS	21.43	
42.86	TEAM WORK	0	
14.29	INNOVATION	7.14	
7.14	LEADERSHIP	0	
0	APPEARANCE	21.43	
0	PERSONAL EFFICIENCY	0	
7.14	EMOTIONAL INTELLIGENCE	28.57	

Important	Competences
Sense of responsibility	LEADERSHIP
Efficacy in working under pressure	PERSONAL EFFICIENCY
Oral communication in Spanish	COMMUNICATION TOOLS
Oral communication in English	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
• Scarce	

Table 7.69 Most important competencies according to the Areas

	GENERAL CULTURE	2.5
18.18	COMMUNICATION TOOLS	5
13.64	COMMUNICATION WITH OTHERS	7.5
18.18	TEAM WORK	7.5
4.55	INNOVATION	7.5
4.55	LEADERSHIP	12.5
4.55	APPEARANCE	5
0	PERSONAL EFFICIENCY	7.5
4.55	EMOTIONAL INTELLIGENCE	7.5
4.55	MARKETING	12.5
9.09	TIC	0
4.55	OPERATION	0
9.09	ENGINEERING	5
0	STATISTICS	12.5
4.55	MATHEMATICS	2.5
0	DATA ANALYSIS	2.5
0	FINANCING -ACCOUNTING	2.5

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

50 por ciento de los jóvenes emplea-dos en Querétaro cuenta con un título de alguna IES.

Important	Competences
Oral communication in Spanish	COMMUNICATION TOOLS
Oral communication in English	COMMUNICATION TOOLS
Knowledge and basic management of accounting	GENERAL CULTURE
Communication in general in a language other than Spanish	COMMUNICATION TOOLS
Task distribution in work teams	TEAM WORK
• Scarce	

REPORT: COMPETENCIES BY STATE

QUINTANA ROO

Yes 29%

No 71%

Table 7.70 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

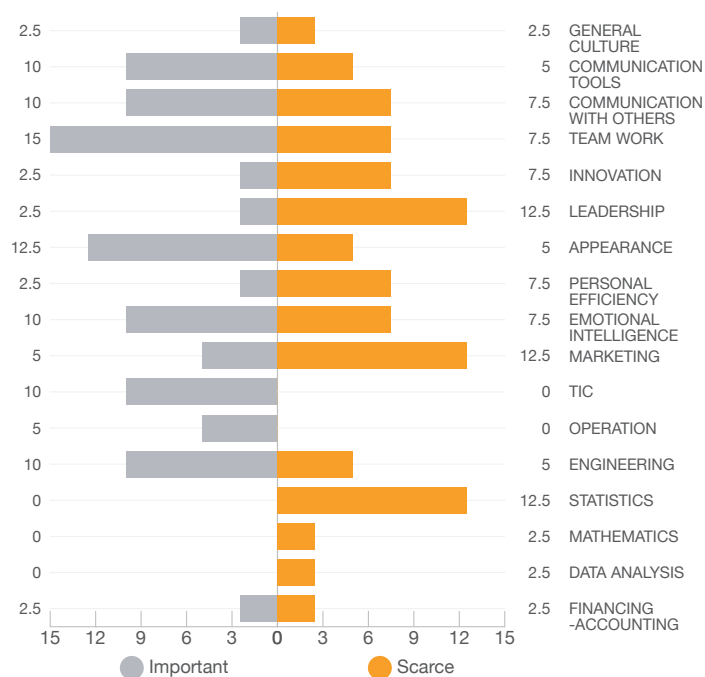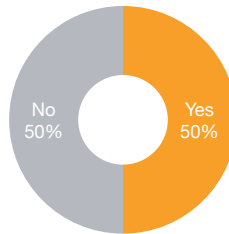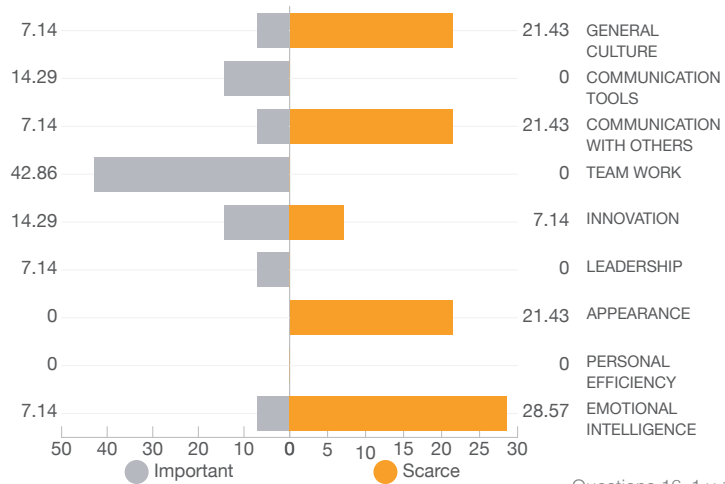**Table 7.71** Most important competencies according to Human Resources

Important		Scarce	Competency
6.67		6.67	GENERAL CULTURE
0		6.67	COMMUNICATION TOOLS
6.67		13.33	COMMUNICATION WITH OTHERS
60		6.67	TEAM WORK
6.67		6.67	INNOVATION
6.67		26.67	LEADERSHIP
0		6.67	APPEARANCE
13.33		26.67	PERSONAL EFFICIENCY
0		0	EMOTIONAL INTELLIGENCE

● Important   ● Scarce

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Oral communication in Spanish	COMMUNICATION TOOLS
Basic knowledge in recruitment	GENERAL CULTURE
Capacity of information synthesis	COMMUNICATION TOOLS
Effective public speaking	COMMUNICATION WITH OTHERS
• Scarce	

Table 7.72 Most important competencies according to the Areas

Important		Scarce
5.13	GENERAL CULTURE	5.13
0	COMMUNICATION TOOLS	0
10.26	COMMUNICATION WITH OTHERS	2.56
33.33	TEAM WORK	15.38
2.56	INNOVATION	10.26
2.56	LEADERSHIP	5.13
2.56	APPEARANCE	2.56
20.51	PERSONAL EFFICIENCY	35.9
5.13	EMOTIONAL INTELLIGENCE	2.56
5.13	MARKETING	5.13
0	TIC	0
0	OPERATION	2.56
0	ENGINEERING	2.56
0	STATISTICS	0
0	MATHEMATICS	2.56
7.69	DATA ANALYSIS	2.56
5.13	FINANCING -ACCOUNTING	5.13

Important ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

80 por ciento de las empresas ofrece cursos internos para el personal que no cubre satisfactoriamente todas las competencias necesarias para la plaza.

Important	Competences
Basic knowledge in equipment and machinery use	COMMUNICATION TOOLS
Oral communication in Spanish	COMMUNICATION TOOLS
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Oral communication in English	COMMUNICATION TOOLS
● Scarce	

REPORT: COMPETENCIES BY STATE

SAN LUIS POTOSÍ

Yes
15%

No
85%
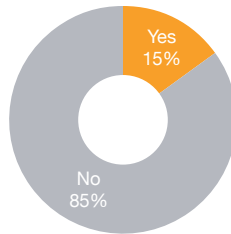
Gráfica 7.73 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

HR questioneer question 61

HR questioneer question 61

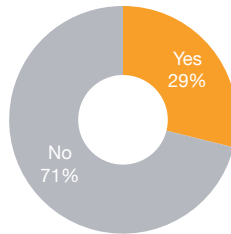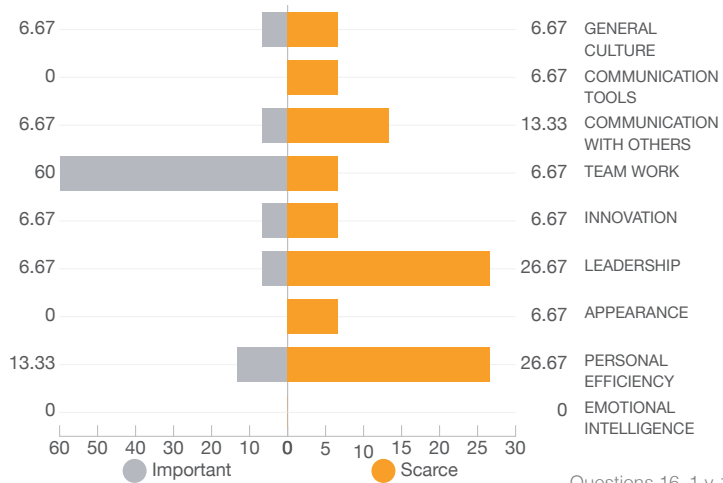**Gráfica 7.74** Most important competencies according to Human Resources

13.33	60	GENERAL CULTURE
6.67	0	COMMUNICATION TOOLS
33.33	13.33	COMMUNICATION WITH OTHERS
40	0	TEAM WORK
0	0	INNOVATION
0	0	LEADERSHIP
0	20	APPEARANCE
0	6.67	PERSONAL EFFICIENCY
6.67	0	EMOTIONAL INTELLIGENCE

40 35 30 25 20 15 10 5 0 10 20 30 40 50 60

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Categorías
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Detection of new business opportunities	INNOVATION
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE

Gráfica 7.75 Most important competencies according to the Areas

2.78	13.89	GENERAL CULTURE
2.78	0	COMMUNICATION TOOLS
16.67	0	COMMUNICATION WITH OTHERS
13.89	0	TEAM WORK
0	2.78	INNOVATION
25	5.56	LEADERSHIP
0	2.78	APPEARANCE
11.11	8.33	PERSONAL EFFICIENCY
2.78	2.78	EMOTIONAL INTELLIGENCE
16.67	2.78	MARKETING
0	2.78	TIC
2.78	2.78	OPERATION
2.78	13.89	ENGINEERING
0	8.33	STATISTICS
0	13.89	MATHEMATICS
0	11.11	DATA ANALYSIS
2.78	8.33	FINANCING -ACCOUNTING

⬤ Important   ⬤ Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Categorías
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
Oral communication in Spanish	COMMUNICATION TOOLS
Capacity in negotiation and conflict resolution	COMMUNICATION WITH OTHERS

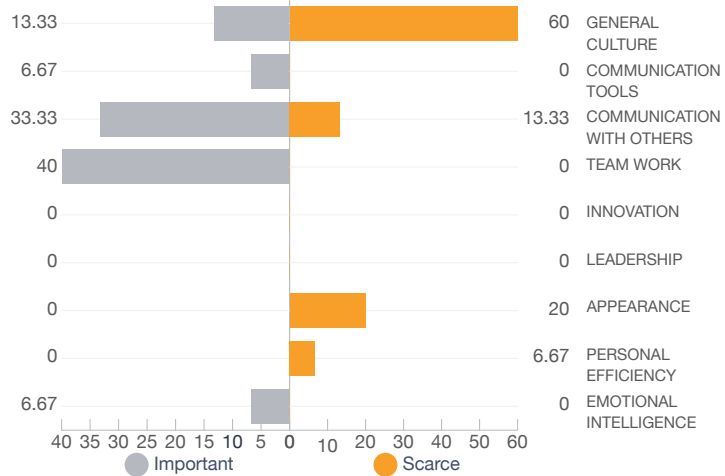53 por ciento del personal que contratan las empresas son estudiantes de nuevo ingreso.

SINALOA

No 53%
Yes 47%

Table 7.76 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.77 Most important competencies according to Human Resources

Important		Scarce	
0	GENERAL CULTURE	0	
6.25	COMMUNICATION TOOLS	25	
12.5	COMMUNICATION WITH OTHERS	6.25	
50	TEAM WORK	18.75	
12.5	INNOVATION	31.25	
6.25	LEADERSHIP	18.75	
0	APPEARANCE	0	
6.25	PERSONAL EFFICIENCY	0	
6.25	EMOTIONAL INTELLIGENCE	0	

50 40 30 20 10 0 5 10 15 20 25 30 35
● Important ● Scarce

Important	Competences
Basic knowledge in equipment and machinery use	General culture
Basic knowledge in legal and regulatory analysis	General culture
Basic knowledge in administration	General culture
Oral communication in English	Communication with others
Communication in general in a language other than Spanish	Communication with others
• Scarce	

Table 7.78 Most important competencies according to the Areas

	Important	Scarce	
GENERAL CULTURE	0	0	
COMMUNICATION TOOLS	14.81	3.7	
COMMUNICATION WITH OTHERS	3.7	18.52	
TEAM WORK	18.52	11.11	
INNOVATION	11.11	3.7	
LEADERSHIP	11.11	3.7	
APPEARANCE	7.41	3.7	
PERSONAL EFFICIENCY	7.41	3.7	
EMOTIONAL INTELLIGENCE	3.7	18.52	
MARKETING	3.7	7.41	
TIC	0	0	
OPERATION	3.7	7.41	
ENGINEERING	7.41	7.41	
STATISTICS	0	0	
MATHEMATICS	0	3.7	
DATA ANALYSIS	0	0	
FINANCING -ACCOUNTING	7.41	7.41	

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Written communication in Spanish	Communication with others
Basic knowledge in administration	Communication with others
Knowledge and basic management of accounting	General culture
Basic competencies in legal analysis and regulation	General culture
Basic knowledge in equipment and machinery use	General culture
• Scarce	

56 por ciento de las empresas piensa que los trabajos previos tienen mayor impacto sobre el desempeño profesional de los jóvenes que cualquier otro factor como la escuela o el entorno social (amigos y familia).

SONORA

Yes
27%

No
73%

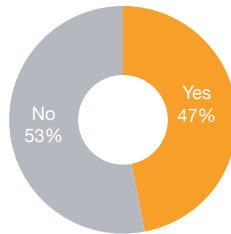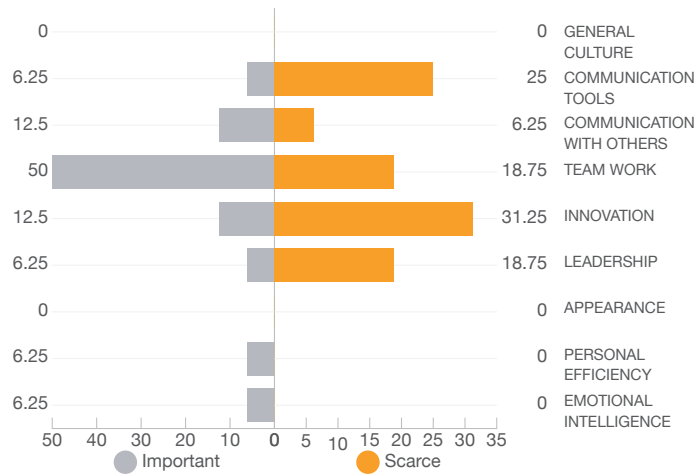**Table 7.79** Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

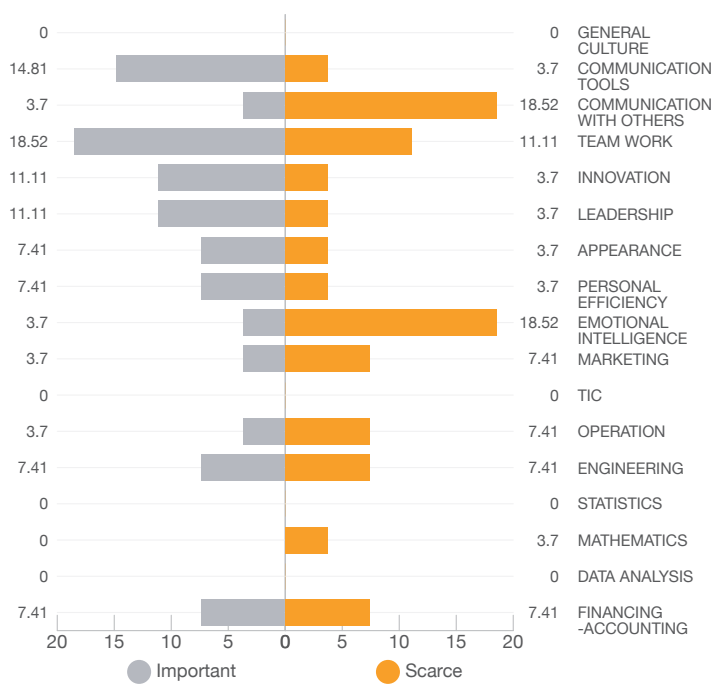**Table 7.80** Most important competencies according to Human Resources

Important		Scarce	Competency
20		60	GENERAL CULTURE
33.33		26.67	COMMUNICATION TOOLS
6.67		0	COMMUNICATION WITH OTHERS
6.67		0	TEAM WORK
20		6.67	INNOVATION
0		0	LEADERSHIP
0		6.67	APPEARANCE
13.33		0	PERSONAL EFFICIENCY
0		0	EMOTIONAL INTELLIGENCE

● Important ● Scarce

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in recruitment	GENERAL CULTURE
Sense of responsibility	LEADERSHIP
Oral communication in Spanish	COMMUNICATION TOOLS
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS

Table 7.81 Most important competencies according to the Areas

	Important	Scarce	
10		26.67	GENERAL CULTURE
10		0	COMMUNICATION TOOLS
20		0	COMMUNICATION WITH OTHERS
16.67		6.67	TEAM WORK
3.33		16.67	INNOVATION
0		0	LEADERSHIP
3.33		3.33	APPEARANCE
10		0	PERSONAL EFFICIENCY
10		3.33	EMOTIONAL INTELLIGENCE
6.67		10	MARKETING
0		6.67	TIC
0		3.33	OPERATION
3.33		6.67	ENGINEERING
3.33		10	STATISTICS
0		3.33	MATHEMATICS
0		0	DATA ANALYSIS
3.33		3.33	FINANCING -ACCOUNTING

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

El 87 por ciento de las empresas única-mente ofrecen un mayor salario cuan-do ascienden a un empleado.

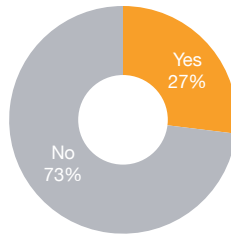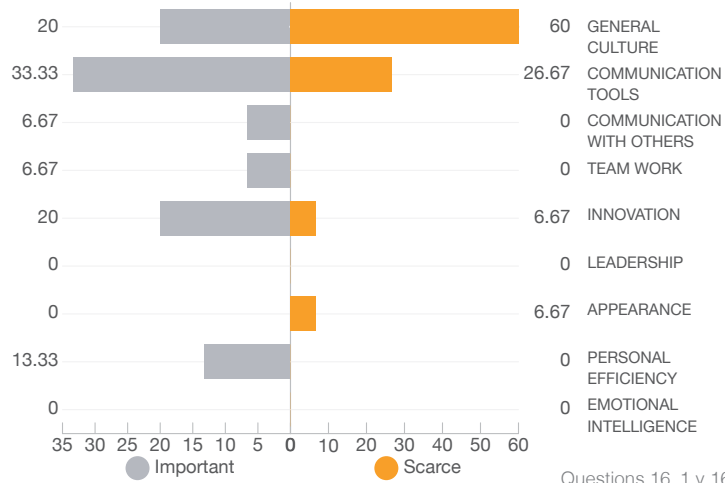| Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Written communication in English	COMMUNICATION TOOLS
Agile and accurate decision-making	LEADERSHIP
Facility of expression	APPEARANCE
Basic knowledge in recruitment	GENERAL CULTURE
● Scarce	

REPORT: COMPETENCIES BY STATE

TABASCO

Yes 27%
No 73%

Table 7.82 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

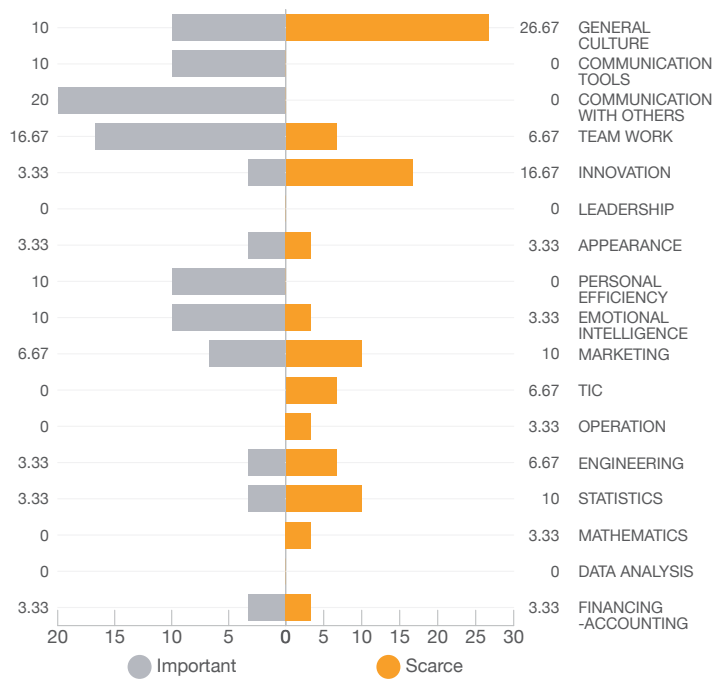**Table 7.83** Most important competencies according to Human Resources

Important		Scarce	
6.67	GENERAL CULTURE	0	
6.67	COMMUNICATION TOOLS	13.33	
6.67	COMMUNICATION WITH OTHERS	6.67	
6.67	TEAM WORK	33.33	
13.33	INNOVATION	20	
6.67	LEADERSHIP	6.67	
0	APPEARANCE	0	
33.33	PERSONAL EFFICIENCY	13.33	
20	EMOTIONAL INTELLIGENCE	6.67	

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Manners congruent with the company	APPEARANCE
Oral communication in English	COMMUNICATION TOOLS

Table 7.84 Most important competencies according to the Areas

Important		Scarce	Area
3.23		26.67	GENERAL CULTURE
6.45		0	COMMUNICATION TOOLS
3.23		0	COMMUNICATION WITH OTHERS
12.9		6.67	TEAM WORK
6.45		16.67	INNOVATION
12.9		0	LEADERSHIP
9.68		3.33	APPEARANCE
3.23		0	PERSONAL EFFICIENCY
0		3.33	EMOTIONAL INTELLIGENCE
9.68		10	MARKETING
16.13		6.67	TIC
3.23		3.33	OPERATION
9.68		6.67	ENGINEERING
3.23		10	STATISTICS
0		3.33	MATHEMATICS
0		0	DATA ANALYSIS
0		3.33	FINANCING -ACCOUNTING

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Basic knowledge in legal analysis and regulation	GENERAL CULTURE
Capacity of negotiation and conflict resolution	COMMUNICATION WITH OTHERS
Task distribution in work teams	TEAM WORK
Basic knowledge in political analysis	GENERAL CULTURE
Basic knowledge in recruitment	GENERAL CULTURE
• Scarce	

53 por ciento considera que el principal problema para reclutar jóvenes es su falta de experiencia laboral.

REPORT: COMPETENCIES BY STATE

TAMAULIPAS

Yes 8%
No 92%

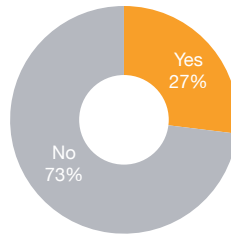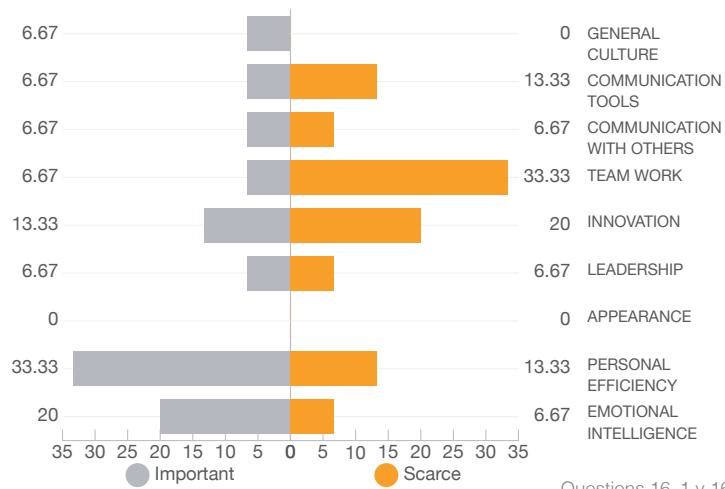**Table 7.85** Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.86 Most important competencies according to Human Resources

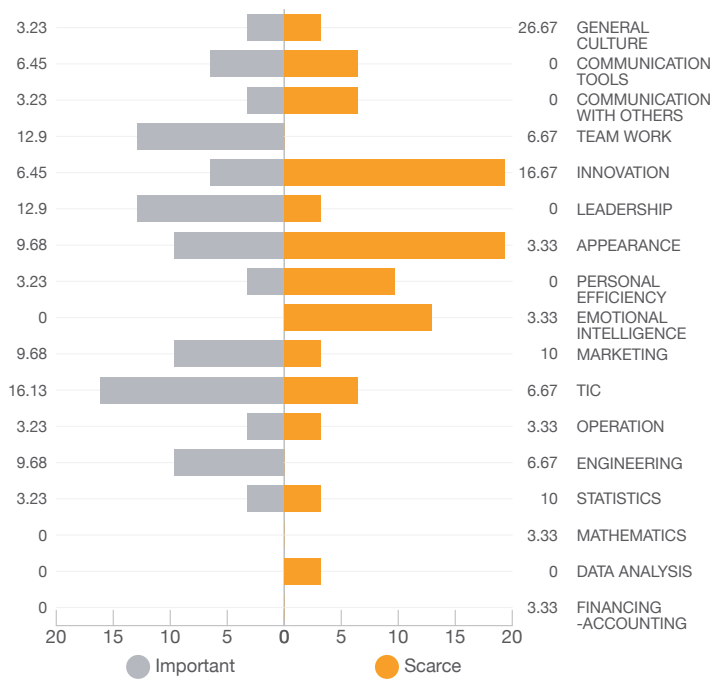| Important		Scarce
35.29	GENERAL CULTURE	11.76
0	COMMUNICATION TOOLS	0
0	COMMUNICATION WITH OTHERS	17.65
17.65	TEAM WORK	5.88
0	INNOVATION	35.29
17.65	LEADERSHIP	11.76
11.76	APPEARANCE	11.76
11.76	PERSONAL EFFICIENCY	5.88
5.88	EMOTIONAL INTELLIGENCE	0

Important	Competences
Basic knowledge in legal analysis	GENERAL CULTURE
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Punctuality	APPEARANCE

Table 7.87 Most important competencies according to the Areas

	Important		Scarce	Competency
9.76			14.63	GENERAL CULTURE
4.88			0	COMMUNICATION TOOLS
0			7.32	COMMUNICATION WITH OTHERS
12.2			7.32	TEAM WORK
4.88			7.32	INNOVATION
21.95			2.44	LEADERSHIP
12.2			2.44	APPEARANCE
9.76			4.88	PERSONAL EFFICIENCY
7.32			7.32	EMOTIONAL INTELLIGENCE
4.88			9.76	MARKETING
0			17.07	TIC
0			4.88	OPERATION
7.32			9.76	ENGINEERING
0			0	STATISTICS
2.44			2.44	MATHEMATICS
0			0	DATA ANALYSIS
2.44			2.44	FINANCING -ACCOUNTING

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

La principal fuente de reclutamiento que se utiliza Tamaulipas son las Ferias de Empleo (47 por ciento).

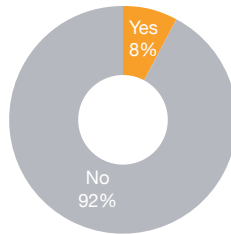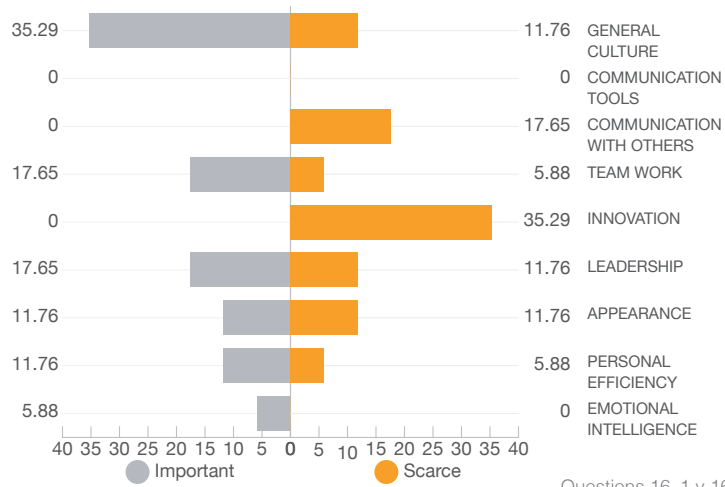| Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Capacity of information synthesis	COMMUNICATION TOOLS
Basic knowledge in legal analysis and regulation	GENERAL CULTURE
Basic knowledge in administration	GENERAL CULTURE
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS
● Scarce	

TLAXCALA

No 33%

Yes 67%

Table 7.88 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

HR questioneer question 61

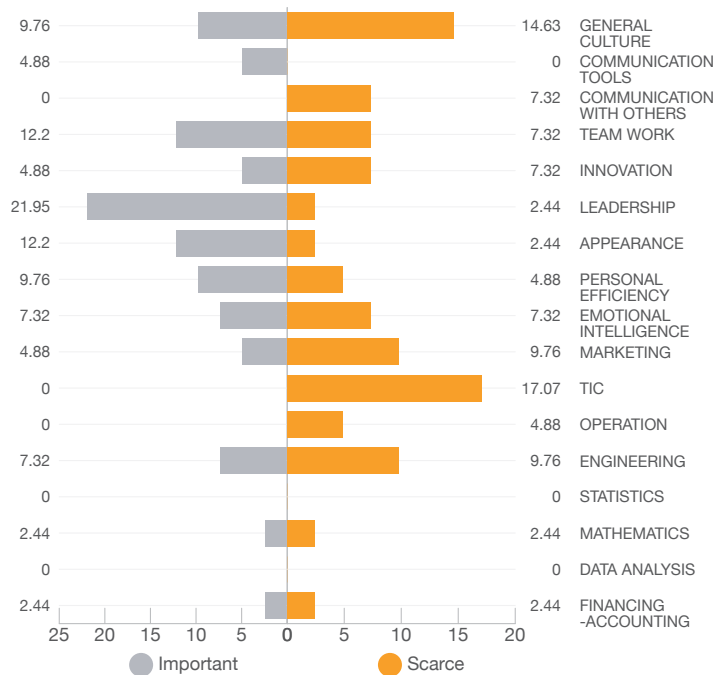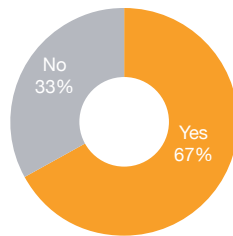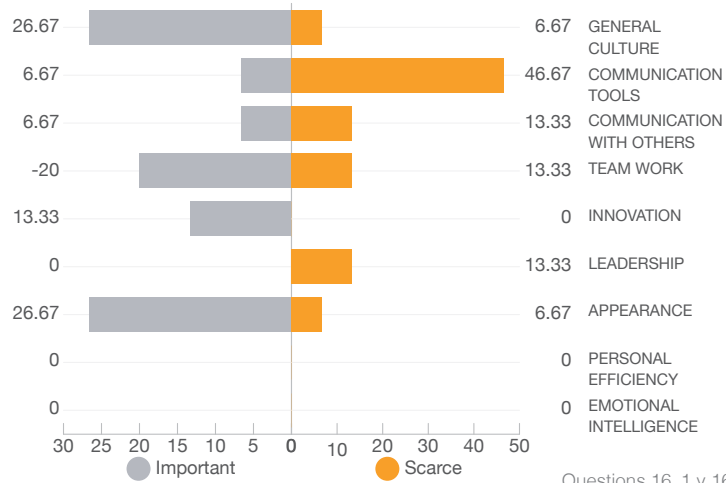**Table 7.89** Most important competencies according to Human Resources

	Important	Scarce	
GENERAL CULTURE	26.67	6.67	
COMMUNICATION TOOLS	6.67	46.67	
COMMUNICATION WITH OTHERS	6.67	13.33	
TEAM WORK	-20	13.33	
INNOVATION	13.33	0	
LEADERSHIP	0	13.33	
APPEARANCE	26.67	6.67	
PERSONAL EFFICIENCY	0	0	
EMOTIONAL INTELLIGENCE	0	0	

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Oral communication in English	COMMUNICATION TOOLS
Basic knowledge in recruitment	GENERAL CULTURE
Written communication in English	COMMUNICATION TOOLS
Communication in general in a language other than Spanish	COMMUNICATION TOOLS
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS
● Scarce	

Table 7.90 Most important competencies according to the Areas

Important		Scarce		
28			12	GENERAL CULTURE
0			8	COMMUNICATION TOOLS
8			20	COMMUNICATION WITH OTHERS
8			4	TEAM WORK
0			8	INNOVATION
16			8	LEADERSHIP
12			4	APPEARANCE
4			4	PERSONAL EFFICIENCY
8			4	EMOTIONAL INTELLIGENCE
4			8	MARKETING
0			8	TIC
0			0	OPERATION
12			8	ENGINEERING
0			0	STATISTICS
0			0	MATHEMATICS
0			4	DATA ANALYSIS
0			0	FINANCING -ACCOUNTING

⬤ Important   🟠 Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Competences
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Talent training	COMMUNICATION WITH OTHERS
Written communication in Spanish	COMMUNICATION TOOLS
Oral communication in English	COMMUNICATION TOOLS
Coordination of work teams	TEAM WORK

La principal fuente de reclutamiento que se utiliza Tlaxcala son las ferias de empleo (60 por ciento).

VERACRUZ

Yes
9%

No
91%

Table 7.91 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

Table 7.92 Most important competencies according to Human Resources

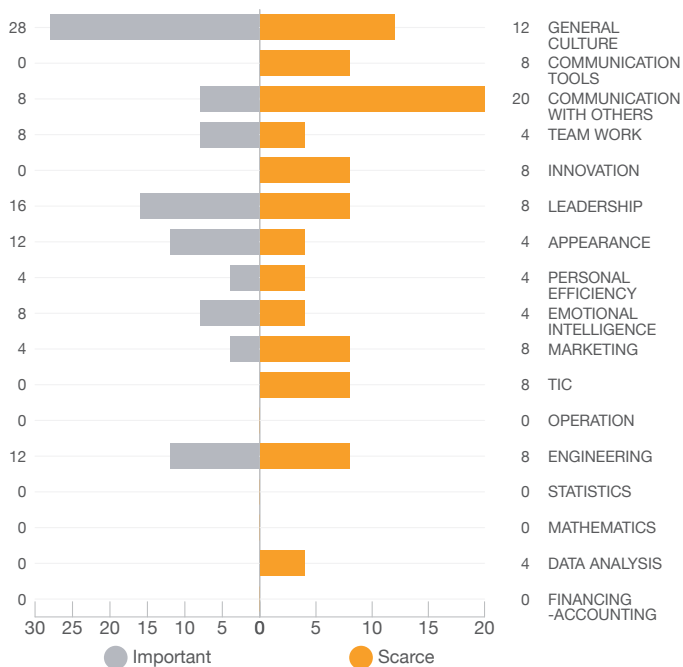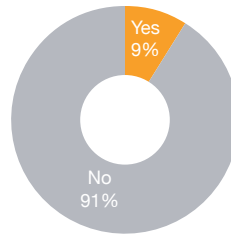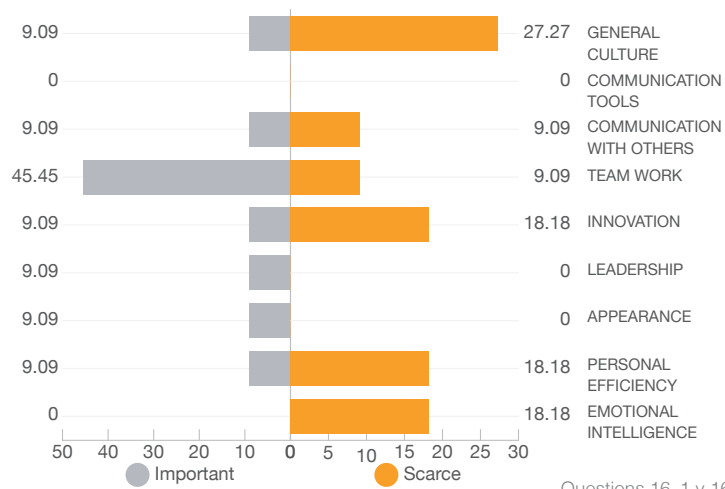| Important		Scarce	Category
9.09		27.27	GENERAL CULTURE
0		0	COMMUNICATION TOOLS
9.09		9.09	COMMUNICATION WITH OTHERS
45.45		9.09	TEAM WORK
9.09		18.18	INNOVATION
9.09		0	LEADERSHIP
9.09		0	APPEARANCE
9.09		18.18	PERSONAL EFFICIENCY
0		18.18	EMOTIONAL INTELLIGENCE

50 40 30 20 10 0 5 10 15 20 25 30
● Important   ● Scarce

Important	Categorías
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
Supplying and receiving biofeedback	COMMUNICATION WITH OTHERS
Coordination of work teams	TEAM WORK
Sense of responsibility	LEADERSHIP
• Scarce	

Table 7.93 Most important competencies according to the Areas

Important		Category	Scarce
0	GENERAL CULTURE		0
0	COMMUNICATION TOOLS		4.55
4.55	COMMUNICATION WITH OTHERS		0
45.45	TEAM WORK		4.55
0	INNOVATION		4.55
0	LEADERSHIP		4.55
0	APPEARANCE		0
13.64	PERSONAL EFFICIENCY		13.64
0	EMOTIONAL INTELLIGENCE		4.55
9.09	MARKETING		9.09
4.55	TIC		4.55
0	OPERATION		9.09
9.09	ENGINEERING		13.64
0	STATISTICS		9.09
0	MATHEMATICS		0
4.55	DATA ANALYSIS		9.09
9.09	FINANCING -ACCOUNTING		9.09

● Important   ● Scarce

Questions 16_1 y 16_1_1 HR questioneer

Important	Categorías
Basic knowledge in administration	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Basic software packages: Word, Excel, PowerPoint	TIC
Basic knowledge in recruitment	GENERAL CULTURE
Written communication in Spanish	COMMUNICATION TOOLS
• Scarce	

REPORT: COMPETENCIES BY STATE

YUCATÁN

Yes 27%

No 73%

Table 7.94 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

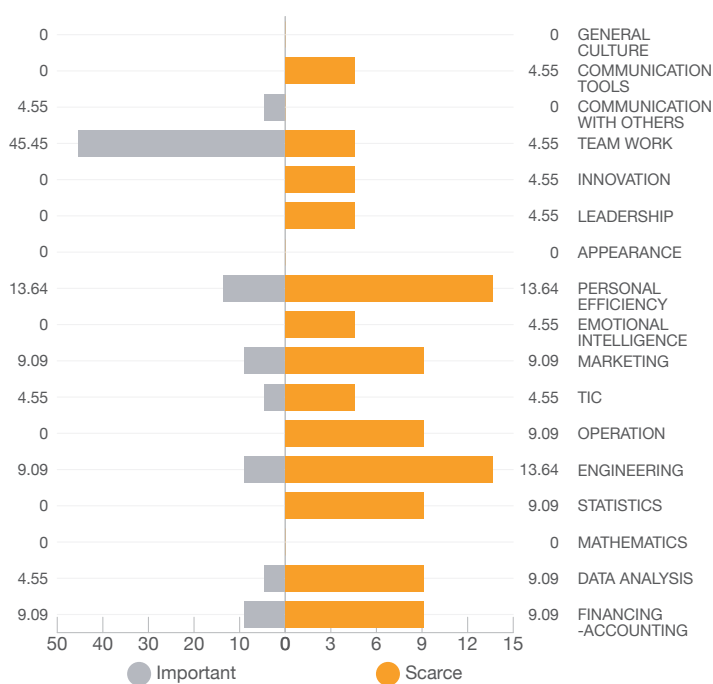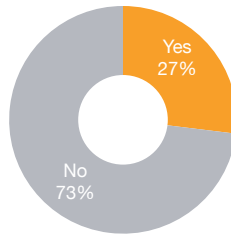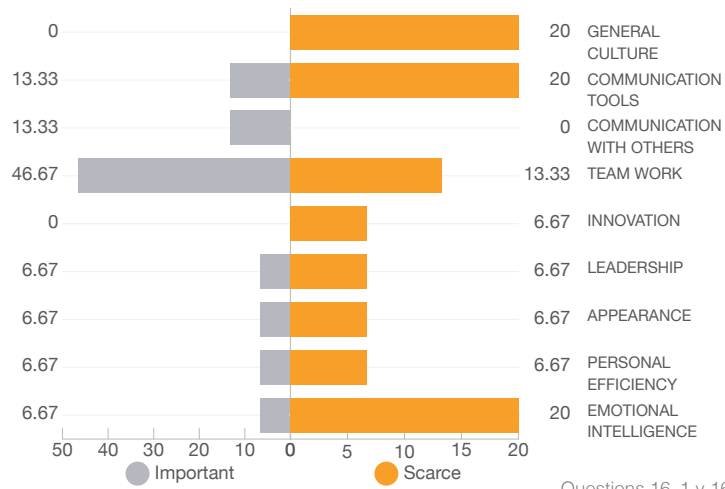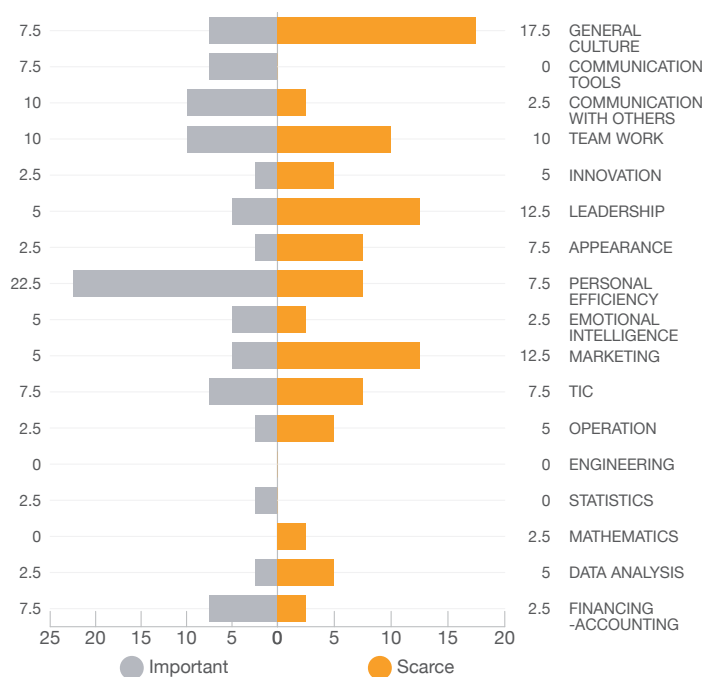**Table 7.95** Most important competencies according to Human Resources

Important		Scarce	Competency
0		20	GENERAL CULTURE
13.33		20	COMMUNICATION TOOLS
13.33		0	COMMUNICATION WITH OTHERS
46.67		13.33	TEAM WORK
0		6.67	INNOVATION
6.67		6.67	LEADERSHIP
6.67		6.67	APPEARANCE
6.67		6.67	PERSONAL EFFICIENCY
6.67		20	EMOTIONAL INTELLIGENCE

Important ●   Scarce ●

Important	Competences
Oral communication in Spanish	COMMUNICATION TOOLS
Basic knowledge in recruitment	GENERAL CULTURE
Basic knowledge in equipment and machinery use	GENERAL CULTURE
Facility of expression	APPEARANCE
Basic knowledge in administration	GENERAL CULTURE

Table 7.96 Most important competencies according to the Areas

	Important		Scarce		
7.5		17.5	GENERAL CULTURE
7.5		0	COMMUNICATION TOOLS
10		2.5	COMMUNICATION WITH OTHERS
10		10	TEAM WORK
2.5		5	INNOVATION
5		12.5	LEADERSHIP
2.5		7.5	APPEARANCE
22.5		7.5	PERSONAL EFFICIENCY
5		2.5	EMOTIONAL INTELLIGENCE
5		12.5	MARKETING
7.5		7.5	TIC
2.5		5	OPERATION
0		0	ENGINEERING
2.5		0	STATISTICS
0		2.5	MATHEMATICS
2.5		5	DATA ANALYSIS
7.5		2.5	FINANCING -ACCOUNTING

Questions 16_1 y 16_1_1 HR questioneer

La principal fuente de reclutamiento que se utiliza en Yucatán es el periódico (40 por ciento).

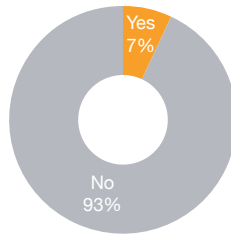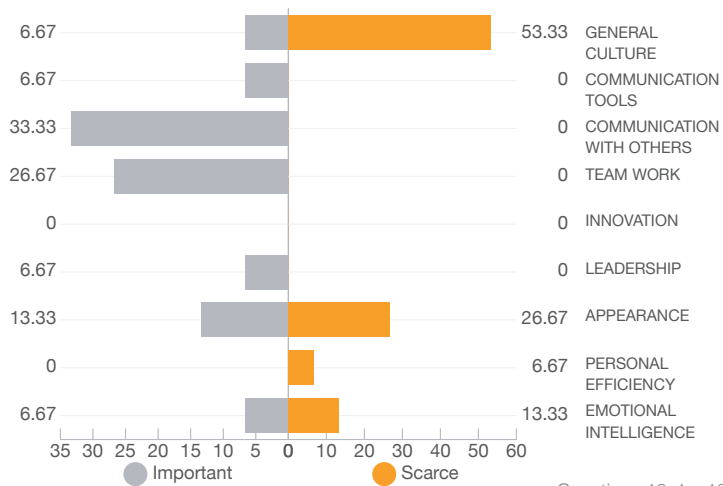| Important	Competences
Oral communication in Spanish	COMMUNICATION TOOLS
Basic knowledge in administration	GENERAL CULTURE
Task distribution in work teams	TEAM WORK
Agile and accurate decision-making	LEADERSHIP
Self-confidence	LEADERSHIP

REPORT: COMPETENCIES BY STATE

ZACATECAS

Yes 7%

No 93%

Table 7.97 Skills gap size

You have or have had vacancies that you were not able to fill despite there were candidates

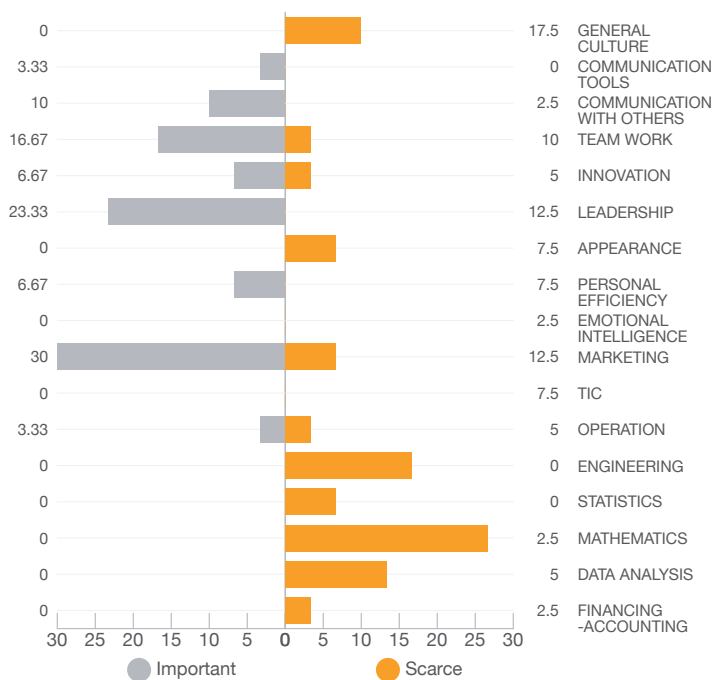**Table 7.98** Most important competencies according to Human Resources

Important		Scarce	Competency
6.67		53.33	GENERAL CULTURE
6.67		0	COMMUNICATION TOOLS
33.33		0	COMMUNICATION WITH OTHERS
26.67		0	TEAM WORK
0		0	INNOVATION
6.67		0	LEADERSHIP
13.33		26.67	APPEARANCE
0		6.67	PERSONAL EFFICIENCY
6.67		13.33	EMOTIONAL INTELLIGENCE

Important	Competences
Oral communication in Spanish	COMMUNICATION WITH OTHERS
Basic knowledge in recruitment	COMMUNICATION WITH OTHERS
Basic knowledge in equipment and machinery use	COMMUNICATION WITH OTHERS
Facility of expression	COMMUNICATION TOOLS
Basic knowledge in administration	COMMUNICATION TOOLS

Table 7.99 Most important competencies according to the Areas

													Important	Scarce

Important	17.5	GENERAL CULTURE
0	0	COMMUNICATION TOOLS
3.33	2.5	COMMUNICATION WITH OTHERS
10	10	TEAM WORK
16.67	5	INNOVATION
6.67	12.5	LEADERSHIP
23.33	7.5	APPEARANCE
0	7.5	PERSONAL EFFICIENCY
6.67	2.5	EMOTIONAL INTELLIGENCE
0	12.5	MARKETING
30	7.5	TIC
0	5	OPERATION
3.33	0	ENGINEERING
0	0	STATISTICS
0	2.5	MATHEMATICS
0	5	DATA ANALYSIS
0	2.5	FINANCING -ACCOUNTING

Questions 16_1 y 16_1_1 HR questioneer

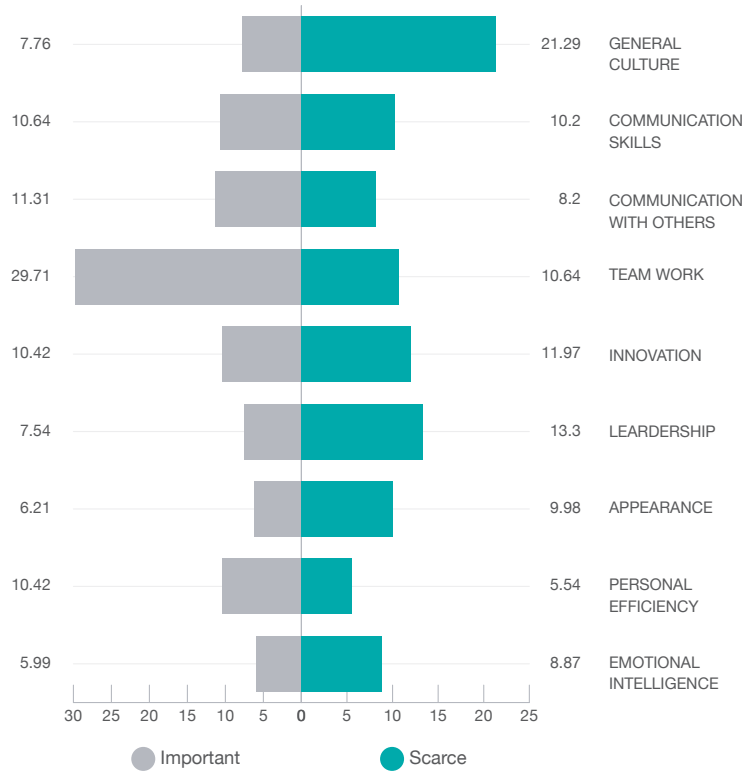| Important	Competences
Oral communication in Spanish	GENERAL CULTURE
Basic knowledge in administration	MARKETING
Task distribution in work teams	APPEARANCE
Agile and accurate decision-making	COMMUNICATION TOOLS
Self-confidence	COMMUNICATION WITH OTHERS

La principal fuente de reclutamiento que se utiliza en Zacatecas es a través de familiares y trabajadores en la empresa (47 por ciento).

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REPORT:
COMPETENCIES
BY AREA

REPORT: COMPETENCIES BY AREA

HUMAN RESOURCES

Table 8.1 Important and scarce competences

Important		Scarce	Competence
7.76		21.29	GENERAL CULTURE
10.64		10.2	COMMUNICATION SKILLS
11.31		8.2	COMMUNICATION WITH OTHERS
29.71		10.64	TEAM WORK
10.42		11.97	INNOVATION
7.54		13.3	LEARDERSHIP
6.21		9.98	APPEARANCE
10.42		5.54	PERSONAL EFFICIENCY
5.99		8.87	EMOTIONAL INTELLIGENCE

● Important   ● Scarce

Questions 16_1 y 16_1_1 of the areas questioneer

Tables 8.2 al 8.10 Competences by categories

Objective: Demonstarte the most important competences for each of the 17 competences' categories for Human Resources
Source: Questioneer question 16 a
Units: Percentages

General Culture	Percentage
Basic knowledge of political analysis	5.54
Basic knowledge of legal analysis and regulation	9.76
Basic knowledge of recruitment	19.96
Basic knowledge of use of equipment	36.14
Basic knowledge of management	27.49
Basic knowledge of Chemistry	0.22
Basic knowledge of programming	0.22
Does not apply to this company	0.67

Communication skills	Percentage
Written communication in Spanish	33.7
Oral communication in Spanish	36.59
Written communication in English	5.76
Oral Communication in English	5.32
Communication in other language, in general	3.1
Ability to synthesize information	14.63
French	0.22
Does not apply to this company	0.67
Total	100

Communication with others	Percentage
Negotiation skills and conflict resolution	45.68
Understanding other cultures and traditions	5.1
Talent training	7.54
Give and receive feedback	15.08
Speak in public effectively	12.2
Logic and clear argumentation	14.41
Total	100

REPORT: COMPETENCIES BY AREA

RECURSOS HUMANOS

Team Work	Percentage
Task distribution in the work team	23.73
Negotiation and conflict resolution	18.18
Team goals are placed before personal interest	7.98
Effective communication	15.08
Listen to others	11.75
Self- knowledge about strengths and weaknesses	7.76
Coordination between team works	15.08
Does not apply to this company	0.44
Total	100

Innovation	Percentage
Identification of improvement oppportunities of products and proceedings	31.93
Identification of new business opportunities	18.4
Implementation of new products	15.08
Cretion of new ideas	20.62
Adaptation of other sector's practices	6.21
Developement of stategic aliances	6.87
Does not apply to this company	0.89
Total	100

Leadership	Percentage
Accurate decision making	36.59
Self- confidence	19.96
Sense of responsability	22.62
Proactivity	14.19
Ability to motivate others	6.43
Does not apply to this company	0.22
Total	100

Appearance	Percentage
Eloquence	22.39
Punctuality	31.04
Customer service	25.94
Charisma	4.88

RECURSOS HUMANOS

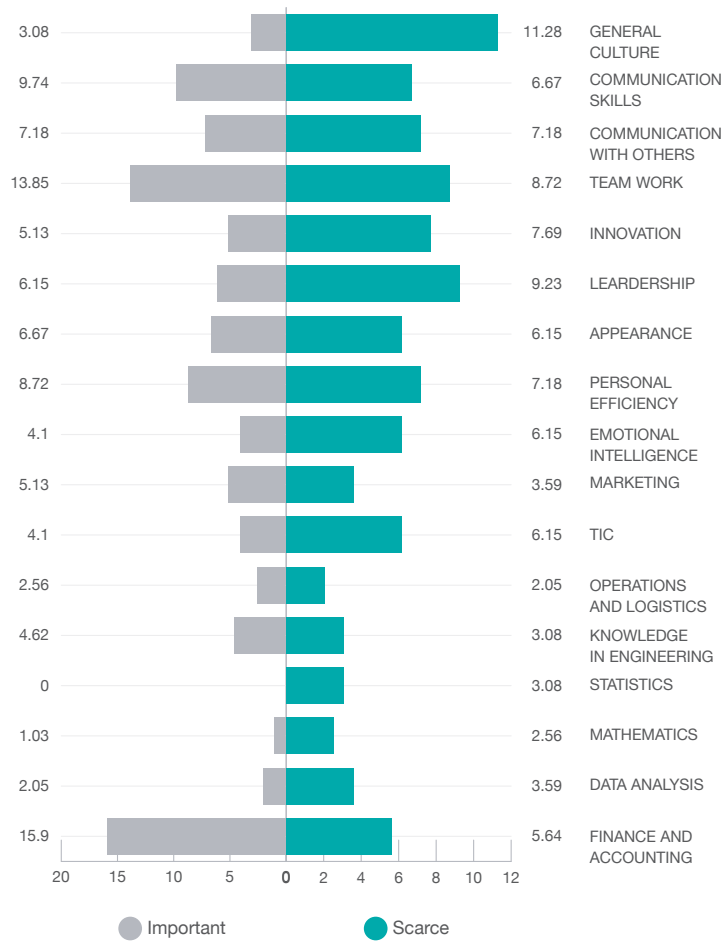|	
Physical appearance	2.88
Appropiate clothing	5.32
Suitable manners with the company	7.32
Does not apply to this company	0.22
Total	100

Personal effectiveness	Percentage
Effective time management	18.63
Effective work under pressure	32.15
Tolerance to frustration	7.1
Task planning	10.2
Problem solving	13.75
Willingness to learn	11.31
Quick learning	6.65
Does not apply to this company	0.22
Total	100

Emotional Intelligence	Percentage
Compliance to the procedures	22.17
Self- motivation	11.53
Empathy	6.65
Attention to details	10.42
Logical and sharp thinking	15.74
Discretion in the use of privileged information	15.08
Personal and professional goals	7.1
Respects hierarchy	6.65
Knows how to start and mantain professional realtions	3.99
Does not apply to this company	0.67
Total	100

REPORT: COMPETENCIES BY AREA

FINANCE AND ACCOUNTING

Table 8.11 Important and scarce competences

Important	Scarce	Competence
3.08	11.28	GENERAL CULTURE
9.74	6.67	COMMUNICATION SKILLS
7.18	7.18	COMMUNICATION WITH OTHERS
13.85	8.72	TEAM WORK
5.13	7.69	INNOVATION
6.15	9.23	LEARDERSHIP
6.67	6.15	APPEARANCE
8.72	7.18	PERSONAL EFFICIENCY
4.1	6.15	EMOTIONAL INTELLIGENCE
5.13	3.59	MARKETING
4.1	6.15	TIC
2.56	2.05	OPERATIONS AND LOGISTICS
4.62	3.08	KNOWLEDGE IN ENGINEERING
0	3.08	STATISTICS
1.03	2.56	MATHEMATICS
2.05	3.59	DATA ANALYSIS
15.9	5.64	FINANCE AND ACCOUNTING

Important · Scarce

Questions 16_1 y 16_1_1 of the areas questioneer

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FINANCE AND ACCOUNTING

Tables 8.12 al 8.28 Breakdown of competences by category

Objective: Demonstrates the most important competences for each of the 17 categories for the area of fianances and accounting
Source: Questioneer question 16
Units: Percentages

General culture	Percentage
Basic knowledge about political and electoral analysis	6.67
Basic knowledge about leal and regulatory analysis	14.87
Basic knowledge about recruitment and talent selection	14.36
Basic knowledge of use of equipment and specialized machines	25.64
Basic knowledge of project management	37.95
Does not apply to this company	0.51
Total	100

Communications tools	Percentage
Written communicatio in Spanish	39.49
Oral communication in Spanish	32.31
Written communication in English	6.67
Oral communication in English	5.64
Communication in other language, in general	1.54
Ability to synthesize	14.36
Total	100

Communication with others	Percentage
Negotiation and solving problems skills	40.51
Understanding other cultures and traditions	9.23
Talent training	8.72
Give and receive feedback	13.33
Speak in public effectively	9.74
Logic and clear argumentation	17.95
Does not apply to this company	0.51
Total	100

REPORT: COMPETENCIES BY AREA

FINANCE AND ACCOUNTING

Team work	Percentage
Task distribution in the work team	28.21
Negotiation and conflict resolution within the team	20.51
Team goals are placed before personal interest	6.67
Effective communication	10.77
Listen to others	14.87
Self- knowledge about strengths and weaknesses	8.72
Coordination between team works	10.26
Total	100

Innovation and entrepreneurship	Percentage
Identification of improvement oppportunities of products and proceedings	26.67
Identification of new business opportunities	14.87
Implementation of new products	17.95
Cretion of new ideas	18.97
Adaptation of other sector's practices	10.77
Developement of stategic aliances	10.26
Does not apply to this company	0.51
Total	100

Leadership	Percentage
Accurate decision making	38.97
Self- confidence	17.44
Sense of responsability	21.03
Proactivity	12.82
Ability to motivate others	9.74
Total	100

Appearance	Percentage
Eloquence	28.72
Punctuality	30.77
Customer service	18.46
Charisma	4.62
Physical appearance	4.62
Appropiate clothing according to the company	8.21

FINANCE AND ACCOUNTING

Suitable manners with the company	4.62
Total	100

Personal effectiveness	Percentage
Effective time management	17.44
Effective work under pressure	35.38
Tolerance to frustration	10.26
Task planning	8.72
Problem solving	11.28
Willingness to learn	10.26
Quick learning	6.15
Does not apply to this company	0.51
Total	100

Emotional Intelligence	Percentage
Compliance to the procedures	21.54
Self- motivation	10.26
Empathy	8.21
Attention to details	10.77
Logical and sharp thinking	18.97
Discretion in the use of privileged information	14.36
Personal and professional goals	5.64
Respects hierarchy	7.18
Knows how to start and mantain professional realtions	2.56
Does not apply to this company	0.51
Total	100

Marketing and sales	Percentage
Market investigation	23.08
Creation and application of marketing and sales campaigns	10.77
Selling habilities	26.15
Basic survey knowledge and management	3.08
Coordinating focus groups	3.59
CRM (Customer Relationship Management) knowledge and management	4.1
Social media management	5.13

FINANCE AND ACCOUNTING

Effective event organisation	4.1
Effective management of exterior public relations	7.69
Skillfulness in graphic design	2.05
Does not apply to this company	10.26
Total	100

TIC	Percentage
Programming	12.31
Website design (programming)	9.23
Social media management (hardware)	10.26
App developemet	3.08
Data base management	16.41
Management of advanced telecommunications infrastructures: 4G	5.13
Maintenance and repare of hardware	3.59
Word, Excel, PowerPoint, Acces, Outlook, Internet, etc.	25.64
Advanced computer programs	3.08
Data encryption and security	7.18
Does not apply to this company	4.1
Total	100

Operation and logistics	Percentage
System thinking	19.49
Total quality implementation (Six Sigma, Kaizen…)	8.21
Design/engineering a product	9.74
Management, planning and forecast of inventories	28.21
Evaluation of processes	13.33
Supply chain knowledge	4.62
Management of suppliers (procurement)	8.72
Does not apply to this company	7.69
Total	100

Knowledge in Engineering	Percentage
Material resistance	1.54
Ground mechanics	1.03
Concrete design	0.51
Structures design and analysis	1.54

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FINANCE AND ACCOUNTING

Statics, kinematics and dynamic	0.51
Elasticity and magnetism	0.51
electronic dispositivs and circuits	0.51
Microcomputers and architecture of computers	0.51
System signal analysis	0.51
Algorithms and data structure	0.51
Software engineering and system disign	3.08
Programming and compliers languages	1.54
Data base, data network and systems	3.08
Inorganic chemistry	0.51
Organic chemestry	0.51
Transmision, reception and analysis of systems	0.51
Basics of electronics, instrumentation and c	0.51
Industrial processes and manufacture	0.51
Planning systems and production systems	0.51
Work study and economics engeneering	1.54
Management of operations	1.03
Quality and security systems	1.03
Statics, kinetics and dynamics	0.51
Robotics	1.03
Does not apply to this company	76.41
Total	100

Quantitative: statistics	Percentage
Descriptive statistics	19.49
Probability statistics	38.46
Probability Satistical inference	7.18
Econometrics	8.72
Bayesian statistics	3.08
Geostatistics	8.72
Does not apply to this company	14.36
Total	100

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FINANCE AND ACCOUNTING

Quantitative: mathematics	Percentage
Differential equations Differential equations	17.44
Topology in mathematics	11.79
Basic algebra	18.97
Calculus	38.97
Does not apply to this company	12.82
Total	100

Quantitative: data analysis	Percentage
Data search	41.54
Database construction	20.51
Generation of tables, charts, ideas and recomendations based on data	18.97
Tendencies recognition, pattern recognitios and relation between variables	6.67
Data mining in existing bases	6.67
Does not apply to this company	5.64
Total	100

Quantitative: fianance and accounting	Percentage
Tax	25.64
Financial mathematics	7.69
Coorporate finances	6.15
Stock finances	3.08
Basic accountability	33.33
Basic risks	6.67
Budget creation and management	8.72
Basic financial models	4.1
Evaluation of projects	2.56
Does not apply to this company	2.05
Total	100

PRODUCTION AND OPERATIONS

Table 8.29 Important and scarce competences
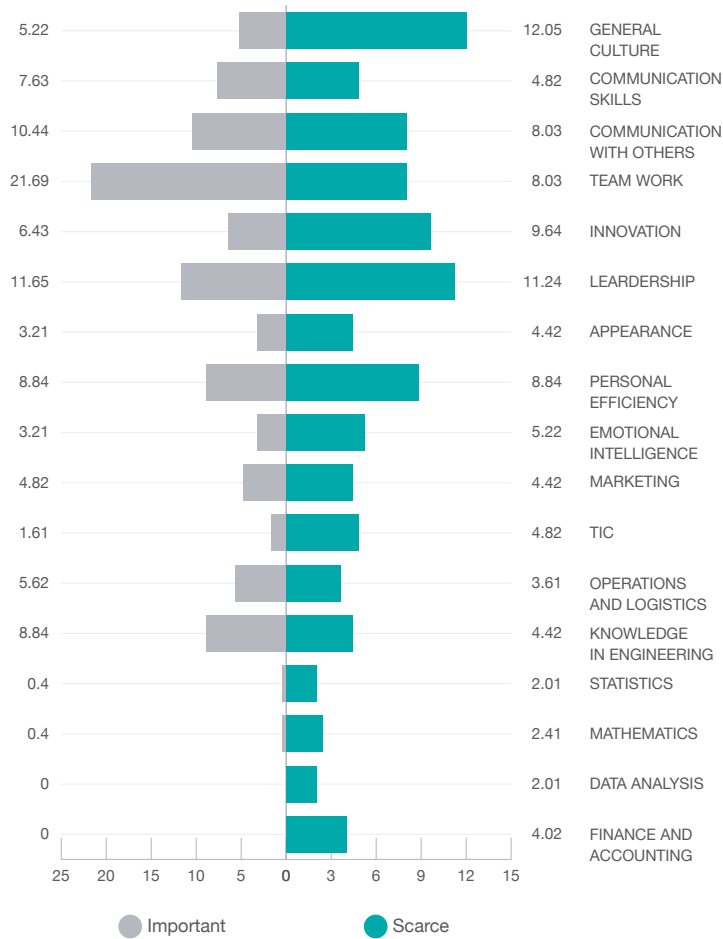
Important		Scarce	Competence
5.22		12.05	GENERAL CULTURE
7.63		4.82	COMMUNICATION SKILLS
10.44		8.03	COMMUNICATION WITH OTHERS
21.69		8.03	TEAM WORK
6.43		9.64	INNOVATION
11.65		11.24	LEARDERSHIP
3.21		4.42	APPEARANCE
8.84		8.84	PERSONAL EFFICIENCY
3.21		5.22	EMOTIONAL INTELLIGENCE
4.82		4.42	MARKETING
1.61		4.82	TIC
5.62		3.61	OPERATIONS AND LOGISTICS
8.84		4.42	KNOWLEDGE IN ENGINEERING
0.4		2.01	STATISTICS
0.4		2.41	MATHEMATICS
0		2.01	DATA ANALYSIS
0		4.02	FINANCE AND ACCOUNTING

● Important   ● Scarce

Questions 16_1 y 16_1_1 of the areas questioneer

REPORT: COMPETENCIES BY AREA

PRODUCTION AND OPERATIONS

Tables 8.30 al 8.46 Breakdown of competences by category

Objective: Demonstrates the most important competences for each of the 17 categories for the area of production and operation
Source: Questioneer question 16
Units: Percentages

General culture	Percentage
Basic knowledge about political and electoral analysis	3.61
Basic knowledge about leal and regulatory analysis	7.63
Basic knowledge about recruitment and talent selection	10.84
Basic knowledge of use of equipment and specialized machines	50.6
Basic knowledge of project management	25.7
Does not apply to this company	1.61
Total	100

Communications tools	Percentage
Written communicatio in Spanish	32.53
Oral communication in Spanish	38.96
Written communication in English	6.83
Oral communication in English	6.83
Communication in other language, in general	0.4
Ability to synthesize	14.06
Does not apply to this company	0.4
Total	100

Communication with others	Percentage
Negotiation and solving problems skills	42.97
Understanding other cultures and traditions	6.43
Talent training	10.44
Give and receive feedback	8.84
Speak in public effectively	10.44
Logic and clear argumentation	20.08
Does not apply to this company	0.8
Total	100

PRODUCTION AND OPERATIONS

Team work	Percentage
Task distribution in the work team	26.1
Negotiation and conflict resolution within the team	15.66
Team goals are placed before personal interest	7.63
Effective communication	13.25
Listen to others	12.45
Self- knowledge about strengths and weaknesses	8.84
Coordination between team works	16.06
Total	100

Innovation and entrepreneurship	Percentage
Identification of improvement oppportunities of products and proceedings	31.33
Identification of new business opportunities	8.84
Implementation of new products	16.06
Cretion of new ideas	20.88
Adaptation of other sector's practices	11.24
Developement of strategic aliances	9.64
Does not apply to this company	2.01
Total	100

Leadership	Percentage
Accurate decision making	38.55
Self- confidence	18.07
Sense of responsability	23.69
Proactivity	11.65
Ability to motivate others	8.03
Total	100

Appearance	Percentage
Eloquence	22.09
Punctuality	29.72
Customer service	22.89
Charisma	5.22
Physical appearance	3.61
Appropiate clothing according to the company	5.22

REPORT: COMPETENCIES BY AREA

PRODUCTION AND OPERATIONS

Suitable manners with the company	10.44
Does not apply to this company	0.8
Total	100

Personal effectiveness	Percentage
Effective time management	17.27
Effective work under pressure	31.33
Tolerance to frustration	10.44
Task planning	16.87
Problem solving	10.04
Willingness to learn	8.03
Quick learning	5.62
Does not apply to this company	0.4
Total	100

Emotional Intelligence	Percentage
Compliance to the procedures	21.29
Self- motivation	8.84
Empathy	7.63
Attention to details	14.06
Logical and sharp thinking	17.27
Discretion in the use of privileged information	9.64
Personal and professional goals	11.24
Respects hierarchy	6.02
Knows how to start and mantain professional realtions	2.81
Does not apply to this company	1.2
Total	100

Marketing and sales	Percentage
Market investigation	16.06
Creation and application of marketing and sales campaigns	6.43
Selling habilities	30.52
Basic survey knowledge and management	3.61
Coordinating focus groups	4.42
CRM (Customer Relationship Management) knowledge and management	2.01
Social media management	6.43

PRODUCTION AND OPERATIONS

Effective event organisation	3.61
Effective management of exterior public relations	11.65
Skillfulness in graphic design	2.81
Does not apply to this company	12.45
Total	100

TIC	Percentage
Programming	11.65
Website design (programming)	5.62
Social media management (hardware)	5.62
App developemet	6.02
Data base management	16.47
Management of advanced telecommunications infrastructures: 4G	4.42
Maintenance and repare of hardware	4.02
Word, Excel, PowerPoint, Acces, Outlook, Internet, etc.	26.91
Advanced computer programs	2.41
Data encryption and security	5.22
Does not apply to this company	11.65
Total	100

Operation and logistic	Percentage
System thinking	12.45
Total quality implementation (Six Sigma, Kaizen…)	12.45
Design/engineering of a product	16.47
Management, planning and forecast of inventories	17.67
Evaluation of processes	15.26
Supply chain knowledge	12.85
Management of suppliers (procurement)	5.22
Does not apply to this company	7.63
Total	100

Knowledge in Engineering	Percentage
Material resistance	1.2
Geotechnics and Geomatics	0.8
Ground mechanics	1.2
Concrete design	0.4

REPORT: COMPETENCIES BY AREA

PRODUCTION AND OPERATIONS

Structures design and analysis	0.4
Construction operations	1.2
Open- cast mines	0.4
Statics, kinetics and dynamics	0.8
Elasticity and magnetism	0.4
Hydraulics and pneumatics	0.8
Electric and electronic circuits	0.8
Design of machines and elements	0.4
Instrumentation and control	2.81
Manufacture processes	1.2
Electricity and magnetism	0.4
Circuits and electronic machines	0.4
Generartion of electricity	0.8
Physics of semiconductors	0.4
Dispositives and electronic circuits	0.8
Digital design and integrated circuits	0.4
Microprocessor and microcontroler	0.8
Systems of electronic communication	0.4
Analysis and system signals	0.4
Software engineering an systems design	1.2
Data base, data network and systems	1.2
Graphic computer and artificial intelligence	0.4
Hydraulics and pneumatics	0.4
Fluid mechanics	0.4
Physicochemical and thermodynamics	0.4
Inorganic chemestry	0.4
Organic chemestry	0.4
Unitarian operations	0.8
General Chemestry	0.4
Thermodynamics and thermofluids	0.8
Electromechanics systems and machines	1.61
Solids mechanics and materials technologies	0.4
Industrial processes and manufacturing	0.8
Operations research	0.4
Planning systems and production systems	0.4
Operation management	0.4

PRODUCTION AND OPERATIONS

Quality and security systems	0.4
Material engineering	0.4
Manufacture engineering	3.21
Programming techniques and design	0.8
Lineal electronic systems	1.61
Mecatronichs design	2.01
Robotics	2.41
Agronomy knowledge	0.4
Sustainable management	0.4
Does not apply to this company	0.4
Total	100

Quantitative: statistics	Percentage
Descriptive statistics	23.69
Probability statistics	30.12
Probability Satistical inference	8.84
Econometrics	5.62
Bayesian statistics	5.22
Geostatistics	5.22
Does not apply to this company	21.29
Total	100

Quantitative: mathematics	Percentage
Differential equations Differential equations	22.09
Topology in mathematics	11.65
Basic algebra	20.48
Calculus	28.11
Does not apply to this company	17.67
Total	100

Quantitative: data analysis	Percentage
Data search	36.55
Database construction	15.26

PRODUCTION AND OPERATIONS

Generation of tables, charts, ideas and recomendations based on data	17.67
Tendencies recognition, pattern recognitios and relation between variables	8.84
Data mining in existing bases	9.64
Does not apply to this company	12.05
Total	100

Quantitative: fianance and accounting	Percentage
Tax	9.64
Financial mathematics	8.43
Coorporate finances	4.02
Stock finances	0.4
Basic accountability	12.45
Basic risks	12.45
Budget creation and management	16.87
Basic financial models	5.62
Evaluation of projects	8.84
Does not apply to this company	21.29
Total	100

MARKETING AND SALES

Table 8.47 Important and scarce competences

Important		Scarce	Competence
5.02		11.97	GENERAL CULTURE
8.11		8.11	COMMUNICATION SKILLS
5.79		6.95	COMMUNICATION WITH OTHERS
19.31		5.79	TEAM WORK
3.86		10.04	INNOVATION
15.83		7.72	LEARDERSHIP
5.02		6.56	APPEARANCE
3.86		6.56	PERSONAL EFFICIENCY
6.18		3.86	EMOTIONAL INTELLIGENCE
16.99		7.72	MARKETING
4.25		4.63	TIC
0.77		0.39	OPERATIONS AND LOGISTICS
1.93		5.02	KNOWLEDGE IN ENGINEERING
0.39		6.56	STATISTICS
0.39		2.32	MATHEMATICS
1.16		3.47	DATA ANALYSIS
1.16		2.32	FINANCE AND ACCOUNTING

● Important   ● Scarce

Questions 16_1 y 16_1_1 of the areas questioneer

REPORT: COMPETENCIES BY AREA

MARKETING AND SALES

Tables 8.48 al 8.64 Breakdown of competences by category

Objective: Demonstrate the most important competences for each of the 17 categories for the area of marketing and sales
Source: Questioneer question 16
Units: Percentages

General culture	Percentage
Basic knowledge about political and electoral analysis	5.41
Basic knowledge about leal and regulatory analysis	9.65
Basic knowledge about recruitment and talent selection	18.92
Basic knowledge of use of equipment and specialized machines	33.59
Basic knowledge of project management	28.19
Does not apply to this company	4.25
Total	100

Communications tools	Percentage
Written communicatio in Spanish	35.14
Oral communication in Spanish	43.24
Written communication in English	6.56
Oral communication in English	4.25
Communication in other language, in general	0.77
Ability to synthesize	9.65
Does not apply to this company	0.39
Total	100

Communication with others	Percentage
Negotiation and solving problems skills	35.52
Understanding other cultures and traditions	9.27
Talent training	8.49
Give and receive feedback	13.9
Speak in public effectively	21.24
Logic and clear argumentation	11.2
Does not apply to this company	0.39
Total	100

MARKETING AND SALES

Team work	Percentage
Task distribution in the work team	24.32
Negotiation and conflict resolution within the team	22.78
Team goals are placed before personal interest	6.18
Effective communication	13.9
Listen to others	13.9
Self- knowledge about strengths and weaknesses	7.72
Coordination between team works	11.2
Total	100

Innovation and entrepreneurship	Percentage
Identification of improvement oppportunities of products and proceedings	16.99
Identification of new business opportunities	24.71
Implementation of new products	18.53
Cretion of new ideas	21.24
Adaptation of other sector's practices	10.81
Developement of strategic aliances	7.34
Does not apply to this company	0.39
Total	100

Leadership	Percentage
Accurate decision making	29.34
Self- confidence	22.39
Sense of responsability	25.1
Proactivity	12.36
Ability to motivate others	10.04
Does not apply to this company	0.77
Total	100

Appearance	Percentage
Eloquence	28.19
Punctuality	19.69
Customer service	35.91
Charisma	4.25
Physical appearance	2.32

REPORT: COMPETENCIES BY AREA

MARKETING AND SALES

Appropiate clothing according to the company	6.18
Suitable manners with the company	3.09
Does not apply to this company	0.39
Total	100

Personal effectiveness	Percentage
Effective time management	17.76
Effective work under pressure	35.91
Tolerance to frustration	6.95
Task planning	11.2
Problem solving	13.51
Willingness to learn	6.18
Quick learning	8.11
Does not apply to this company	0.39
Total	100

Emotional Intelligence	Percentage
Compliance to the procedures	18.53
Self- motivation	11.97
Empathy	7.34
Attention to details	18.53
Logical and sharp thinking	14.67
Discretion in the use of privileged information	12.36
Personal and professional goals	6.18
Respects hierarchy	6.18
Knows how to start and mantain professional realtions	4.25
Does not apply to this company	100
Total	

Marketing and sales	Percentage
Market investigation	17.76
Creation and application of marketing and sales campaigns	9.65
Selling habilities	47.88
Basic survey knowledge and management	3.47
Coordinating focus groups	5.02
CRM (Customer Relationship Management) knowledge and management	1.16

Social media management	3.47
Effective event organisation	2.7
Effective management of exterior public relations	2.32
Skillfulness in graphic design	2.7
Does not apply to this company	3.86
Total	100

TIC	Percentage
Programming	8.49
Website design (programming)	6.18
Social media management (hardware)	8.49
App developemet	5.79
Data base management	16.22
Management of advanced telecommunications infrastructures: 4G	3.86
Maintenance and repare of hardware	1.16
Word, Excel, PowerPoint, Acces, Outlook, Internet, etc.	39.38
Advanced computer programs	0.77
Data encryption and security	3.86
Does not apply to this company	5.79
Total	100

Operation and logistic	Percentage
System thinking	11.2
Total quality implementation (Six Sigma, Kaizen…)	5.79
Design/engineering of a product	11.58
Management, planning and forecast of inventories	28.57
Evaluation of processes	12.74
Supply chain knowledge	8.49
Management of suppliers (procurement)	11.58
Does not apply to this company	10.04
Total	100

REPORT: COMPETENCIES BY AREA

MARKETING AND SALES

Knowledge in Engineering	Percentage
Structural statics	0.39
Ground mechanics	0.39
Concrete design	0.39
Structures design and analysis	0.77
Fluid mechanics	0.39
Hydraulics of machines	0.77
Construction Operations	0.39
Hydraulics and pneumatics	1.54
Machinery design	0.39
Circuits and electronic machines	1.16
Generartion of electricity	0.39
Distribution systems	0.77
Statics, kinematics and dynamic	2.71
Electricity and magnetism	0.77
Electromagnetics, optical and acustic theory	0.39
Electricity and industrial electronics	0.39
Dispositives and electronic circuits	1.16
Software engineering an systems design	0.77
Programming languages and compilers	0.39
Data base, data network and systems	1.54
Graphic computing and artifical intelligence	0.39
Inorganic chemestry	0.39
Organic chemestry	1.16
Thermodynamics and thermofluids	0.39
Industrial processes and manufacturing	0.77
Operations research	0.77
Planning systems and production systems	1.16
Work studies and economics engineering	1.93
Operation management	1.93
Quality and security systems	0.77
Solid mechanics and fluid mechachics	0.39
Material engineering	0.39
Lineal electronic systems	0.39
Does not apply to this company	73.36
Total	100

MARKETING AND SALES

Quantitative: statistics	Percentage
Descriptive statistics	23.17
Probability statistics	30.5
Probability Satistical inference	9.65
Econometrics	8.49
Bayesian statistics	3.09
Geostatistics	5.02
Does not apply to this company	20.08
Total	100

Quantitative: mathematics	Percentage
Differential equations Differential equations	11.58
Topology in mathematics	12.74
Basic algebra	19.69
Calculus	39.77
Does not apply to this company	16.22
Total	100

Quantitative: data analysis	Percentage
Data search	46.33
Database construction	14.29
Generation of tables, charts, ideas and recomendations based on data	16.99
Tendencies recognition, pattern recognitios and relation between variables	9.27
Data mining in existing bases	6.56
Does not apply to this company	6.56
Total	100

REPORT: COMPETENCIES BY AREA

MARKETING AND SALES

Quantitative: fianance and accounting	Percentage
Tax	8.88
Financial mathematics	11.58
Coorporate finances	5.79
Stock finances	3.09
Basic accountability	18.92
Basic risks	6.18
Budget creation and management	24.32
Basic financial models	7.72
Evaluation of projects	5.79
Does not apply to this company	7.72
Total	100

SYSTEMS AND TECHNOLOGY

Table 8.65 Important and scarce competences
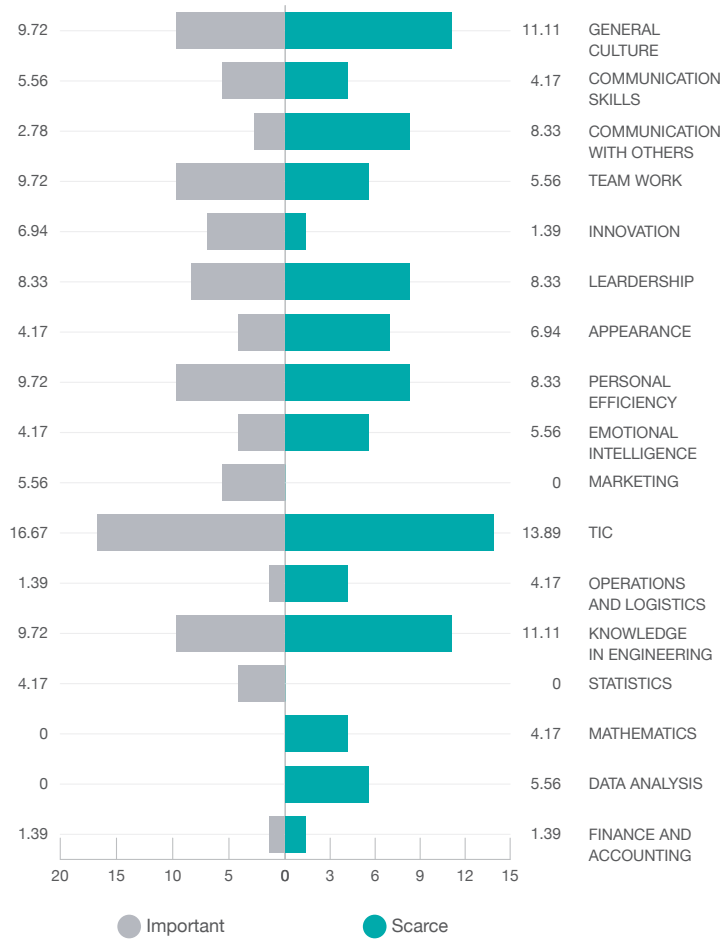
Important	Scarce	Competence
9.72	11.11	GENERAL CULTURE
5.56	4.17	COMMUNICATION SKILLS
2.78	8.33	COMMUNICATION WITH OTHERS
9.72	5.56	TEAM WORK
6.94	1.39	INNOVATION
8.33	8.33	LEARDERSHIP
4.17	6.94	APPEARANCE
9.72	8.33	PERSONAL EFFICIENCY
4.17	5.56	EMOTIONAL INTELLIGENCE
5.56	0	MARKETING
16.67	13.89	TIC
1.39	4.17	OPERATIONS AND LOGISTICS
9.72	11.11	KNOWLEDGE IN ENGINEERING
4.17	0	STATISTICS
0	4.17	MATHEMATICS
0	5.56	DATA ANALYSIS
1.39	1.39	FINANCE AND ACCOUNTING

20 15 10 5 0 3 6 9 12 15

● Important   ● Scarce

Questions 16_1 y 16_1_1 of the areas questioneer

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SYSTEMS AND TECHNOLOGY

Gráficas del 8.66 al 8.82 Breakdown of competences by category

Objective: Demonstrate the most important competences for each of the 17 categories for the area of systems and technology
Source: Questioneer question 16
Units: Percentages

General culture	Percentage
Basic knowledge about political and electoral analysis	6.94
Basic knowledge about leal and regulatory analysis	8.33
Basic knowledge about recruitment and talent selection	13.89
Basic knowledge of use of equipment and specialized machines	43.06
Basic knowledge of project management	22.22
Does not apply to this company	5.56
Total	100

Communications tools	Percentage
Written communicatio in Spanish	29.17
Oral communication in Spanish	25
Written communication in English	15.28
Oral communication in English	4.17
Communication in other language, in general	8.33
Ability to synthesize	16.67
Does not apply to this company	1.39
Total	100

Communication with others	Percentage
Negotiation and solving problems skills	37.5
Understanding other cultures and traditions	8.33
Talent training	11.11
Give and receive feedback	11.11
Speak in public effectively	6.94
Logic and clear argumentation	25
Total	100

SYSTEMS AND TECHNOLOGY

Team work	Percentage
Task distribution in the work team	27.78
Negotiation and conflict resolution within the team	13.89
Team goals are placed before personal interest	12.5
Effective communication	12.5
Listen to others	6.94
Self- knowledge about strengths and weaknesses	11.11
Coordination between team works	13.89
Does not apply to this company	1.39
Total	100

Innovation and entrepreneurship	Percentage
Identification of improvement oppportunities of products and proceedings	22.22
Identification of new business opportunities	15.28
Implementation of new products	22.22
Cretion of new ideas	20.83
Adaptation of other sector's practices	9.72
Developement of strategic aliances	5.56
Does not apply to this company	4.17
Total	100

Leadership	Percentage
Accurate decision making	26.39
Self- confidence	18.06
Sense of responsability	27.78
Proactivity	12.5
Ability to motivate others	11.11
Does not apply to this company	4.17
Total	100

Appearance	Percentage
Eloquence	19.44
Punctuality	29.17
Customer service	23.61
Charisma	5.56

SYSTEMS AND TECHNOLOGY

Physical appearance	1.39
Appropiate clothing according to the company	12.5
Suitable manners with the company	6.94
Does not apply to this company	1.39
Total	100

Personal effectiveness	Percentage
Effective time management	16.67
Effective work under pressure	33.33
Tolerance to frustration	13.89
Task planning	4.17
Problem solving	8.33
Willingness to learn	15.28
Quick learning	8.33
Total	100

Emotional Intelligence	Percentage
Compliance to the procedures	16.67
Self- motivation	12.5
Empathy	5.56
Attention to details	12.5
Logical and sharp thinking	20.83
Discretion in the use of privileged information	12.5
Personal and professional goals	9.72
Respects hierarchy	4.17
Knows how to start and mantain professional realtions	1.39
Does not apply to this company	4.17
Total	100

Marketing and sales	Percentage
Market research	13.89
Creation and application of marketing and sales campaigns	6.94
Selling habilities	15.28
Basic survey knowledge and management	11.11
Coordinating focus groups	2.78

SYSTEMS AND TECHNOLOGY

CRM (Customer Relationship Management) knowledge and management	4.17
Social media management	8.33
Effective event organisation	4.17
Effective management of exterior public relations	5.56
Skillfulness in graphic design	12.5
Does not apply to this company	15.28
Total	100

TIC	Percentage
Programming	11.11
Website design (programming)	9.72
Social media management (hardware)	5.56
App developemet	5.56
Data base management	15.28
Management of advanced telecommunications infrastructu- res: 4G	8.33
Maintenance and repare of hardware	1.39
Word, Excel, PowerPoint, Acces, Outlook, Internet, etc.	30.56
Advanced computer programs	1.39
Data encryption and security	6.94
Does not apply to this company	4.17
Total	100

Operation and logistics	Percentage
System thinking	19.44
Total quality implementation (Six Sigma, Kaizen…)	8.33
Design/engineering of a product	11.11
Management, planning and forecast of inventories	19.44
Evaluation of processes	12.5
Supply chain knowledge	5.56
Management of suppliers (procurement)	9.72
Does not apply to this company	13.89
Total	100

REPORT: COMPETENCIES BY AREA

SYSTEMS AND TECHNOLOGY

Knowledge in Engineering	Percentage
Electricity and magnetism	1.39
Signal analysis and treating	1.39
Hydraulics and pneumatics	1.39
Circuits and electronic machines	1.39
Control and distribution system	1.39
Statics, kinematics and dynamic	1.39
Structure and programming of computers	5.56
Microcomputers and architecture of computers	1.39
Signal analysis and systems	1.39
Software engineering and systems design	9.72
Data base, data networks and systems	6.94
Graphic computing and artificial intelligence	2.78
Unitary operations	1.39
Optical communication systems	1.39
Operations research	1.39
Planning and production systems	1.39
Quality and security systems	1.39
Design of mechanisms and of elements of machines	1.39
Digital circuits and systems	1.39
Agronomy knowledge	1.39
Does not apply to the company	52.78
Total	100

Quantitative: statistics	Percentage
Descriptive statistics	30.56
Probability statistics	23.61
Probability Satistical inference	4.17
Econometrics	5.56
Bayesian statistics	2.78
Geostatistics	6.94
Does not apply to this company	26.39
Total	100

SYSTEMS AND TECHNOLOGY

Quantitative: mathematics	Percentage
Differential equations Differential equations	26.39
Topology in mathematics	11.11
Basic algebra	16.67
Calculus	22.22
Does not apply to this company	23.61
Total	100

Quantitative: data analysis	Percentage
Data search	36.11
Database construction	20.83
Generation of tables, charts, ideas and recomendations based on data	19.44
Tendencies recognition, pattern recognitios and relation between variables	2.78
Data mining in existing bases	9.72
Does not apply to this company	11.11
Total	100

Quantitative: fianance and accounting	Percentage
Tax	19.44
Financial mathematics	4.17
Coorporate finances	12.5
Stock finances	2.78
Basic accountability	8.33
Basic risks	5.56
Budget creation and management	9.72
Basic financial models	8.33
Evaluation of projects	6.94
Does not apply to this company	22.22
Total	100

MANAGEMENT AND DIRECTION

Table 8.83 Important and scarce competences

Important		Scarce	Competence
7.09		7.8	GENERAL CULTURE
9.22		4.61	COMMUNICATION SKILLS
9.93		7.45	COMMUNICATION WITH OTHERS
19.5		8.16	TEAM WORK
4.96		7.45	INNOVATION
10.99		10.64	LEARDERSHIP
6.03		8.51	APPEARANCE
9.57		9.93	PERSONAL EFFICIENCY
2.84		4.96	EMOTIONAL INTELLIGENCE
4.61		5.32	MARKETING
3.9		3.9	TIC
3.19		4.61	OPERATIONS AND LOGISTICS
2.84		5.32	KNOWLEDGE IN ENGINEERING
0		1.77	STATISTICS
0		5.67	MATHEMATICS
1.06		2.13	DATA ANALYSIS
4.26		1.77	FINANCE AND ACCOUNTING

● Important   ● Scarce

Questions 16_1 y 16_1_1 of the areas questioneer

MANAGEMENT AND DIRECTION

Tables 8.84 al 8.100 Breakdown of competences by category

Objective: Demonstrate the most important competences for each of the 17 categories for the area of management and direction
Source: Questioneer question 16
Units: Percentages

General culture	Percentage
Basic knowledge about political and electoral analysis	4.61
Basic knowledge about leal and regulatory analysis	13.12
Basic knowledge about recruitment and talent selection	15.25
Basic knowledge of use of equipment and specialized machines	30.5
Basic knowledge of project management	34.4
Does not apply to this company	2.13
Total	100

Communications tools	Percentage
Written communicatio in Spanish	37.59
Oral communication in Spanish	32.98
Written communication in English	3.55
Oral communication in English	6.74
Communication in other language, in general	3.55
Ability to synthesize	14.18
Does not apply to the company	1.42
Total	100

Communication with others	Percentage
Negotiation and solving problems skills	42.2
Understanding other cultures and traditions	9.22
Talent training	6.03
Give and receive feedback	8.87
Speak in public effectively	11.7
Logic and clear argumentation	21.28
Does not apply to the company	0.71
Total	100

REPORT: COMPETENCIES BY AREA

MANAGEMENT AND DIRECTION

Team work	Percentage
Task distribution in the work team	25.89
Negotiation and conflict resolution within the team	18.79
Team goals are placed before personal interest	9.22
Effective communication	17.02
Listen to others	10.28
Self- knowledge about strengths and weaknesses	7.09
Coordination between team works	11.7
Total	100

Innovation and entrepreneurship	Percentage
Identification of improvement oppportunities of products and proceedings	23.76
Identification of new business opportunities	16.67
Implementation of new products	18.79
Cretion of new ideas	19.86
Adaptation of other sector's practices	7.45
Developement of strategic aliances	10.99
Does not apply to the company	2.48
Total	100

Leadership	Percentage
Accurate decision making	35.46
Self- confidence	17.73
Sense of responsability	23.4
Proactivity	10.64
Ability to motivate others	12.41
Does not apply to the company	0.35
Total	100

Appearance	Percentage
Eloquence	25.18
Punctuality	26.95
Customer service	24.11
Charisma	3.9

MANAGEMENT AND DIRECTION

Physical appearance	4.96
Appropiate clothing according to the company	7.8
Suitable manners with the company	6.38
Does not apply to the company	0.71
Total	100

Personal effectiveness	Percentage
Effective time management	21.99
Effective work under pressure	26.95
Tolerance to frustration	6.74
Task planning	12.06
Problem solving	7.45
Willingness to learn	14.89
Quick learning	8.16
Does not apply to the company	1.77
Total	100

Emotional Intelligence	Percentage
Compliance to the procedures	25.18
Self- motivation	10.28
Empathy	6.03
Attention to details	9.22
Logical and sharp thinking	15.25
Discretion in the use of privileged information	12.77
Personal and professional goals	7.09
Respects hierarchy	8.87
Knows how to start and mantain professional realtions	3.55
Does not apply to this company	1.77
Total	100

Marketing and sales	Percentage
Market investigation	14.89
Creation and application of marketing and sales campaigns	12.77
Selling habilities	30.14
Basic survey knowledge and management	4.26

REPORT: COMPETENCIES BY AREA

MANAGEMENT AND DIRECTION

Coordinating focus groups	3.9
CRM (Customer Relationship Management) knowledge and management	0.71
Social media management	6.74
Effective event organisation	4.26
Effective management of exterior public relations	9.22
Skillfulness in graphic design	2.48
Does not apply to the company	10.64
Total	100

TIC	Percentage
Programming	10.64
Website design (programming)	7.8
Social media management (hardware)	8.87
App developemet	1.77
Data base management	17.02
Management of advanced telecommunications infrastructures: 4G	4.26
Maintenance and repare of hardware	3.55
Word, Excel, PowerPoint, Acces, Outlook, Internet, etc.	33.33
Advanced computer programs	6.38
Data encryption and security	6.38
Total	100

Operation and logistics	Percentage
System thinking	15.25
Total quality implementation (Six Sigma, Kaizen…)	6.38
Design/engineering of a product	8.51
Management, planning and forecast of inventories	29.43
Evaluation of processes	11.35
Supply chain knowledge	7.45
Management of suppliers (procurement)	12.41
Does not apply to the company	9.22
Total	100

MANAGEMENT AND DIRECTION

Knowledge in Engineering	Percentage
Structural statics	0.71
Material resistance	1.76
Geotechniques and Geomatics	0.35
Ground mechanics	1.06
Fluid mechanics	0.35
Construction Operations	0.35
Electricity and magnetism	0.35
Hydraulics and pneumatics	0.71
Fluids and solids mechanics	0.35
Electric and electronic circuits	0.35
Pressure vessels design	0.35
Machinery design	1.06
Phisics of semiconductors	0.35
Electric circuits and machines	2.13
Electricity generation	0.35
Statics, kinematics and dynamic	0.7
Ectronic dispositives and circuits	0.71
Digital design and integrated circuits	0.35
Control systems	0.35
Chemestry and material structure	0.35
Computing structure and programming	1.06
Signal systems and analysis	0.35
Software engineering and design systems	0.71
Programming languages and compilers	0.35
Data base, data networks and systems	3.55
Graphic computing and artificial intelligence	0.35
Organic Chemestry	1.77
Chemical reactors engineering	0.71
Transmision systems, reception and analysis	0.35
General Chemestry	0.35
Thermodinamics and thermofluids	0.35
Electromechanic systems and te machines	1.06
Industrial processes and manufacturing	0.35
Operations research	0.35

MANAGEMENT AND DIRECTION

Planning and production systems	0.35
Operation management	3.55
Quality and security systems	0.35
Robotics	0.35
Does not apply to the company	70.21
Total	100

Quantitative: statistics	Percentage
Descriptive statistics	23.4
Probability statistics	30.85
Probability Satistical inference	7.8
Econometrics	4.26
Bayesian statistics	4.61
Geostatistics	8.51
Does not apply to the company	20.57
Total	100

Quantitative: mathematics	Percentage
Differential equations Differential equations	18.44
Topology in mathematics	12.77
Basic algebra	20.92
Calculus	31.91
Does not apply to the company	15.96
Total	100

Quantitative: data analysis	Percentage
Data search	47.87
Database construction	10.64
Generation of tables, charts, ideas and recomendations based on data	16.67
Tendencies recognition, pattern recognitios and relation between variables	8.16
Data mining in existing bases	6.74
Does not apply to the company	9.93
Total	100

7

Quantitative: fianance and accounting	Percentage
Tax	23.05
Financial mathematics	7.09
Coorporate finances	3.9
Stock finances	2.13
Basic accountability	15.25
Basic risks	9.57
Budget creation and management	12.41
Basic financial models	9.93
Evaluation of projects	7.09
Does not apply to this company	9.57
Total	100

8

**RECOMMENDATIONS
TO REDUCE THE
COMPETENCIES GAP**

RECOMMENDATIONS TO REDUCE THE COMPETENCIES GAP

AUTHORITIES:

- To establish better controls and preventive and corrective processes that someone who has gone through the entire educative system would continue to have deficiencies in basic competencies.
- To facilitate and streamline their own processes for approving and certifying, in the most rapid manner, new courses and programs in terms of these having a focus on the generation and strengthening of competencies.
- Compile, concentrate and publish better practices and successful cases in the generation and strengthening of competencies at the national and international level.
- Compile, concentrate and publish better practices and successful cases or competencies so that professors can re-orient their cases and experiences toward greater emphasis on the development of competencies.
- To procure that IHE requiring accreditation of programs or courses, describe and publish the competencies that on the students will have developed on concluding the program.
- While there is an important scarcity of "hard" competencies, the fact that "soft" competencies have been those most frequently cited in our study suggests that the content of programs and courses must be refocused toward a more intense development of these (competencies).
- To conduct periodical surveys and studies on the current situation of competencies in the country, particularly among young people. Place this information at the disposal of students, parents, Human Resource areas, and IHE.

INSTITUTIONS OF HIGHER EDUCATION (IHE):

- To publish the averages of effectiveness or success of the job searches of their students and graduates, salaries obtained and companies or industries where university graduates find employment options such as scholarship holders or full-time employees.
- To substitute the mechanisms that are currently utilized to evaluate and select professional practicums (salary, location or schedule), so that others who are deciding on which competencies will develop the practitioner in these practicums.
- In addition to supplying information on subjects that form part of the common core courses, programs and plans of study would be required to "identify" their "competencies in common".
- To redesign the functioning of their employment agencies. That is, instead of being "passive" and only receiving information from the companies, these agencies would become authentic promoters of their students and graduates.
- That members of the employment agencies and liaison areas would be required to have a seat on the committees and boards on which they design, evaluate, update and modify programs of study.
- Similarly to the way that various IHE evaluate, by means of departmental or general examinations, the learning of certain minimal knowledges, the same would be carried out but with respect to competencies.
- Given that the ideal context for strengthening "soft" competencies are professional practicums, the integration of the performance that the student exhibits in these in their final evaluation (degree conferral) of the program.

COMPANIES:

- The fact that only 32 percent of the companies interviewed had engaged in some type of liaison but that 87 percent had considered these valuable suggests that what should be promoted is the organization of these practicums. That is where the companies should concentrate their efforts.
- Given that the companies interviewed cite that one of the problems that they confront in contracting young people is their lack of experience (27 percent manifested this), there is an initiative for them to collaborate with IHE and for them to aid in generating more and better experiences of professional practicums.
- At present, the majority of tie-in and training initiatives that companies carry out are performed in isolated fashion or at the company level; in order to improve and standardize practices, the ideal is for these companies to define these at the chamber or industry level and for them to be implemented at the company level.
- To avoid some companies from benefiting from what others invest, the ideal scenario is that in which instead of training being carried out within the companies, this would occur within IHE programs.
- Transparency and information on opportunities and options of work practices, especially supplying information not only on economic compensation and work conditions, but also on the type of actions carried out and the competencies that those who practice them could develop
- To generate mechanisms of internal communication (Human Resources) and external (cameras) that permit sharing with agility and clarity the bottlenecks found in matters of competencies.
- During the conduction of interviews for this study, as well as on comparing the responses obtained, we detected that the Human Resources Area does not always share the vision and the needs of the other areas; we think that there is much to do so that a gap will also not exist between what Human Resources selects and that which the areas need.

9

CONCLUSIONS

CONCLUSIONS

The current situation of education in Mexico can be described as funnel-shaped: there are fewer young people presently studying higher education than should be in terms of those required demographically according to the needs of the country. Of those studying, very few truly have access to a quality program and take maximal advantage of the concepts, tools and competencies that these offer; and of these students, few acquire or strengthen the competencies that would make them attractive to the world of work.

In Mexico, as throughout the world, there is an important gap between supply and demand for competencies. Among the many causes that have produced and enlarged that situation in recent years we find that the speed with which technological advances develop and are applied is not the same as that at which the Institutions of Higher Education (IHE) adjust their programs, subjects and educative resources. In other words, the demand for certain competencies exceeds the capacity for developing or strengthening these. Our study found that at the national level, in Mexico, the gap between the supply of and demand for competencies is 26 percent.

Of the several ways in which this problem can be analyzed and approached, we think that the focus that should be given priority is that based on the analysis, generation and distribution of information related with, among other points, what the competencies are and what they are for, which are the competencies by area, sector and state and the design and evaluation of educative and training programs with a greater emphasis on the generation and development of competencies. This project comprises a first step in that direction.

At the country level, we detect mixed information, because on the one hand there are competencies focalized on certain states and areas within a company, while we also observe some competencies that are common and transversal to all states and areas.

One of the most serious results that we have found at the national level is that, in the opinion of the companies, there is a coexistence of a scarcity of basic competencies ("oral communication" and "written communication") and one of more sophisticated competencies ("use of machinery" and basic concepts of administration"). While the lack of the former signals that there is something that we are not doing well in our educative system, the latter shows that we are not generating the competencies necessary for generating and carrying out productive, leading edge processes. We also found that in terms of "hard" and "soft" competencies, information from the companies portrays a Mexico that assigns greater importance to the "soft" skills (seven of every ten companies cite this as being so). Finally, despite that at least in the last two decades initiatives have arisen from the improvement of proficiency in the English language, in the opinion of the companies we are still far from the majority of university graduates possessing a truly functional use of English.

While one part of this project is merely descriptive –providing information on the competencies that are the most important and the scarcest-, we have taken advantage of the communication that we have established with companies and trade-union agencies to explore initiatives that contribute to reducing this gap. Among these, we consider that the effective linking between companies and IHE is that with the greatest potential. The latter is so because –as our data show- the companies that are participating in this type of initiative have been observed in the coming together of a great alliance to improve the human capital that they attract, recruit and develop. And above all because in the

opinion of the companies themselves, they frequently do not contract young people because these do not have suffi-cient experience (27 percent of the companies interviewed cited this). Thus, greater linkage would allow young people to complement their studies with professional practicums that, on the one hand would give them the opportunity to apply and reinforce their knowledges, and on the other hand would offer them professional experience.

At the public policy level, we think that although it is difficult to increase enrollment in higher education and to augment or standardize the quality of the educative offer among IHE, we do observe that there is space for refocusing efforts, contents, resources and programs toward the competencies that the companies urgently demand. We become optimistic that many of these initiatives do not require great changes at the institutional level nor the investment of great amounts in infrastructure, but simply the generation of sufficient information, quality information and well di-rected to four target groups; students -current and potential- of higher education; parents; companies, especially their Human Resources areas; and Institutes of Higher Education, IES, especially their program and departmental coordina-tions, such as their employment agencies and connections.

Thanks to the communications media, the use of the Internet and the greater presence of the civil society, the world is being permeated with transparency and information. In contrast, the education industry, whether public or priva-te, continues to be characterized by opacity, where consumers, providers and the affected third parties –such as the companies- operate with few data. This opacity not only biases everyone, but also feeds politization and the adoption of ideological positions that do not favor the open discussion of the educative programs in any fashion. This study is, therefore, an invitation to the generation of concrete information that can be employed by young people, parents, public policymakers, universities and companies, for the more judicious consumption of education, as well as for the new educative agreements that the country requires.

EPILOGUE

Due to the restrictions inherent to a written report, this document is a summarized version of our findings and reflec-tions. Therefore, we have set up an Internet site on which we make available to the public all of the collected data and evidence, which defines and sustains the existence of a gap between the supply and demand for competencies among young university students in Mexico, among other findings of interest. For more information, we suggest consulting the map, the reports, the information and databases available at: www.Profesionistas.org.mx

1

ANNEX

With the purpose of identifying the competencies of greatest importance and those that are the scarcest according to the companies we administered a national survey from June 1 to October 25, 2013, to directors of Human Resources Areas and to area heads at companies in the 32 states of the Mexican Republic. The internal areas of the companies where the interviews were conducted were as follows: Administration and Management; Finances and Accounting; Production and Operations; Marketing and Sales, and Systems and Technology, only when all or some of these existed at the interior of the companies. The grand total of interviews carried out was 1,556, detailed ahead in this chapter.

MAPPING THE PROFESSIONAL COMPETENCIES

In order to facilitate the identification of the most important and most scarcely encountered competencies in young university professionals at the time of taking the survey, a listing was generated of 136 competencies, with the option for the interviewee to cite additional competencies.

On generating our listing, we included a distinction between social (or "soft") and technical (or "hard") competencies. The former comprise those that directly involve work with other persons, while the latter are those embracing what the person "knows how to do", either alone or in collaboration with others. Under the latter rubric are included, for example, market research, networks administration, basic office packaging, and basic management of financial mathematics.

Concretely, we generated seven large fields of "soft" competencies, each separated into more specific competencies, and eight large fields of "hard" competencies, subdivided in turn into others, for a grand total of 136 competencies.

Our listing of competencies was collated with the proper listings of international headhunting agencies, finding that in some cases, our "competencies map" was the same or even more detailed.

SAMPLE DESIGN

The investigation design had as its objective the identification of the labor gap in Mexico. Thus, the sample was centered on companies that carried out their own recruitment processes, that with the intention of determining the vacuums in the supply of work and in education that these companies perceive. Therefore, the segmented nature of the survey proposal impeded the sample form being random, given that the companies were required to comply with the requisites cited later.

In any case, given the selection processes, the sample did indeed incorporate a representative number of companies that offer young people the opportunity to develop themselves professionally.

Taking the following three factors into account, the requisites of the companies for taking the survey were established:

States:

For the purpose of quantifying the regional gap in the labor sector, companies in the 32 states of the Republic were surveyed. Thus, as a first formality it was established that the area charged with contracting functions, as well as of the installations and the productive processes of the companies surveyed, were localized in those states, this to render the companies' selection processes more rigorous.

Sectors:

Utilizing information of the National Survey of Occupation and Employment (ENOE) corresponding to the fourth semester of 2012 administered by the National Institute of Statistics and Geography (INEGI), the economic sectors in each of the 32 states of Mexico were identified that employ a greater percentage of young people (as percentage of the total number of jobs that they have). For this, the following were used: occupational, sectorial, and age variables and, for the objectives of this project, a young person was defined as a person who was found between the ages of 19 and 26 years. Based on that information, three sectors were chosen that included, individually, the greatest percentage of young persons. The information obtained was the following:

• Economic sectors that employed more young persons per state;
• Size of the companies that employed more young persons;
• Municipalities in which the greatest number of young persons is employed;
• Occupations that in their majority employ young persons.

Companies:

Utilizing the catalogue of the North American Industrial Classification System (NAICS)[1], a list of companies was selected and these were invited to participate in the survey. The criteria set for being able to participate were:

 (1) Belonging to one of the three main economic sectors that employ the greatest number of young persons as a percentage of the total jobs that they have;

 (2) Possessing a Human Resources Area and at least three of the remaining five areas to be surveyed. That is, we would be able to obtain from these information on practicums, employment of young persons and skills at the Human Resources level, but also at the level of the other areas[2].

 Due to that participation was voluntary, our sample of companies was not random nor, thus, can it have statistical representativity. However, the objective of this investigation was to obtain the best and the greatest amount of infor-

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1 NAICS comprises 22 economic sectors that include the ambit in which the economic activity of the industry or company is developed. The sectors that utilize ENOE are the same ones defined and classified by NAICS.

2 On certain occasions, some small companies had two or more functional areas under the control of a sole management., This being the case, these companies were eliminated from our sample due to their not complying with the requisites established in the selection process.

mation possible, and with that to be able to extract viable and operative recommendations. In total, we interviewed 481 companies and conducted a total of 1,556 interviews.

Questionnaire design

With the objective of obtaining information on the importance and scarcity of specific skills (at a general and at a particular level) that the work market demands, tools were designed to obtain that information clearly and accurately. In order to complement this information, questions were introduced into the questionnaire concerning the liaison with IHE, perception of higher education, recommendations to young persons, and other points.

The design and elaboration of this questionnaire began with an exhaustive review of other tools and comparable questionnaires, and informative interviews were carried out in a multitude of companies and areas. Once the preliminary version of the questionnaire was obtained, its content and design was validated with experts in administering surveys, and also utilizing qualitative indicators to validate the tool. Finally this new methodology was compared with that employed by some international headhunting agencies.

For administration, two questionnaires were utilized: (a) Questionnaire for Human Resources, and (b) Questionnaire for Areas (Administration and Management; Operations and Production; Marketing and Sales; Systems and Technology). The idea of utilizing two questionnaires was due to that from the project's design stage we identified that perception, priorities, terminology and processes were frequently not the same between Human Resources and the remaining areas.

In general, the two questionnaires are similar; the questionnaire that was applied to the Human Resources area comprises 51 questions. Both have as their objective making known the most important and scarcest competencies for the companies. The main difference is that the areas questionnaire has a more detailed section on specific competencies.

Applying the survey

Prior to application of the survey, we conducted pilot tests in the Mexico City Metropolitan Area (MCMA) and in some cities in outlying, provincial regions. The purpose of these pilot tests was (1) to test the information capture tools and (2) to evaluate the experience, logistics, functioning and results of the interviews. With these results the surveyors were trained in a series of workshops and the pilot tests were again administered to these. With the questionnaires, recommendations and guidelines were generated for the administering the survey, all in order to minimize errors and problems during survey administration.

Administration of the survey was programmed based on a minimum of companies to be surveyed, utilizing the following criterion: considering the 32 federal entities and the three sectors that were selected in each, there were a total of five companies per sector, which resulted in interviewing 481 companies.

Due to that some states presented problems in terms of the availability of time on the part of the directors, a small percentage of surveys were continued by telephone with the purpose of affording greater flexibility to survey application.

On the other hand, applying the survey in the state of Guerrero unfortunately coincided with the damage occasioned by the meteorological phenomena *Ingrid* and *Manuel* in September 2013. Thus, given the difficulties confronted by application of the survey, it was only possible to conduct the survey in two of the three principal sectors.

Interpretation of the terms "important" and "scarce"

The work gap in Mexico was measured taking into consideration the competencies cited as the most important and those most needed by the companies. For the list of the general as well as for the specific competencies, the surveyee was asked to enumerate hierarchically the competencies that appeared to them to be the most important for working in the company. Afterward, the same exercise was repeated on replacing the criterion of importance with that of scarcity. Therefore, the work gap was seen reflected in those competencies that resulted important for the companies but that at the same time have been difficult to find among young professionals.

2

ANNEX

Despite its high enrollment in primary education, Mexico continues to confront elevated dropout levels in higher education. That is, for every 100 children who enter primary school education, only 84 finish secondary school (grades 7 through 9). Worse yet, according to the Mexican Ministry of Education (SEP), it is estimated that of those 100, only 63 finish preparatory school (grades 10 through 12).[1] Thus, it is evident that Mexico continues to face problems of academic dropout, especially at the more advanced levels of education.

In focusing on higher education we find that enrollment for the 2012 2013 academic year was 3,300,348 young persons. Coverage of this educative level comprises 25%, meaning that for every 100 young persons aged between 18 and 23 years, only 25 are found to be studying for an undergraduate-degree program, a technical career, or a postgraduate degree.[2] It is very important to cite that these data only refer the number of graduates that there are and provide no information on (a) the quality of preparation with which they graduate or (b) whether the programs from which they graduate –or the competencies that they obtain- are those that these graduates need and that Mexico needs, as a country, to be competitive. In many ambits, but above all in that of education, *more* is not always *better*.

Table A2.1 – Recent evolution of coverage in education by level in Mexico

Objetivo: Evaluar la cobertura en educación superior en México
Fuente: SEP
Unidades: Porcentajes

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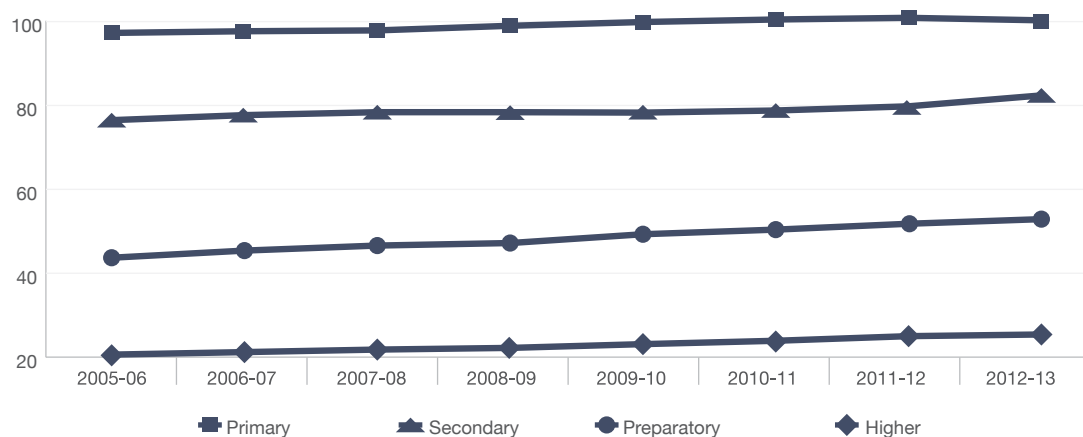
1 SEP, *Principales cifras del sistema educativo nacional 2012-2012, Main Figures of the National Educative System 2012-2012,*
pp. 32-40. Disponible en: (http://fs.planeacion.sep.gob.mx/estadistica_e_indicadores/principales_cifras/principales_cifras_2012_2013_bolsillo.pdf).

2 SEP, *Principales cifras del sistema educativo nacional 2012-2012, Main Figures of the National Educative System 2012-2012,*
p. 52. Disponible en: (http://fs.planeacion.sep.gob.mx/estadistica_e_indicadores/principales_cifras/principales_cifras_2012_2013_bolsillo.pdf).
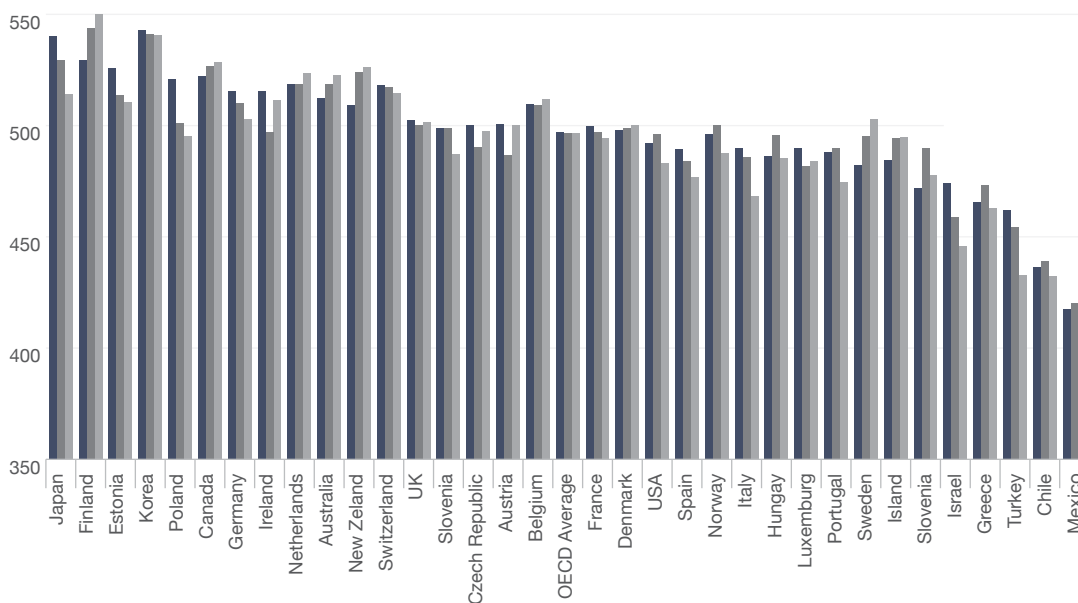
QUALITY

With respect to quality, the evidence shows that we are far from the levels that are necessary for generating the type of human capital that the economic and social challenges we are confronting require. Of 100 students who enter primary school, it is estimated that only 30 of these will obtain the competencies and knowledge necessary for their integration into higher education and later, the labor market.[3]

Mexico occupies 53rd place among the 65 countries or economies evaluated in the Program for International Student Assessment (PISA) 2012[4] and last place among the 33 Organisation for Economic Co-operation and Development (OECD) member countries.

Table A2.2 – Comparative Historical Results, Mexico versus World, PISA. Averages mathematics, sciences, and Spanish literacy

Objetivo: Evaluar las mejoras en la calidad educativa
Fuente: PISA
Unidades: Puntaje

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3 Utilizing the Examination for Quality and Educational Achievement, Mexico (EXCALE) and PISA 2012 figures.

4 The Program for International Student Assessment (PISA) is a comparative study coordinated by the OECD, on the level of skills that students have acquired in key domains such as Reading, Sciences and Mathematics. In this regard, the PISA test incorporates a focus on competencies such as those exposed in this study, given that this goes beyond the simple learning of concepts to evaluating acquisition of the necessary skills.

As can be appreciated in the previous tables, Mexico not only obtained a significantly low score in comparison with the other OECD countries, but also in turn, advances in educative-subjects material have been nearly imperceptible. While there were improvements in 2009 scores in comparison with those of 2006, PISA 2012 results show that efforts to improve the educative quality of our country have been insufficient.

PISA 2012 results demonstrate that 54% of students aged 15 years (who in Mexico are in the third, and last, year of secondary school) have deficiencies or are found at an insufficient level with regard to their mathematical competencies (score under that of PISA 2). Therefore, secondary education appears to be the weakest link in the basic education in our country and is, thus, where we must direct our attention to correct the course of and the educative quality that our young people receive.

Taking up again the point that we addressed in previous paragraph –the importance of basic education-, in the tables we can observe that the last level of basic education is one of the "red flags", because it presents high student dropout numbers and additionally has not exhibited improvements in the Examination for Quality and Educational Achievement, Mexico (EXCALE) examinations.

For the year 2012, at secondary-school level, 36 and 52% of students obtained an insufficient score in tests in Spanish literacy and mathematics, respectively, which means that at the end of the 2011 2012 school year, more than 500,000 students graduated from basic education with deficiencies in the competencies necessary to enter the middle and higher educative levels or to be incorporated into the world of work. Similarly, these deficiencies have not improved over the years; contrariwise, it appears that the educative system prepares young persons with increasing deficiencies. From 2006 to 2008, the percentage of students who obtained an insufficient average in Spanish literacy increased by 4%. In mathematics, the percentage increased by 2%.

It is noteworthy that this it not simply a question of grades or of not having understood what the textbooks, the teachers or their examinations say. What these evaluations/grades reveal are lacks in key competencies for achieving success, not only in terms of work, but also even personal success, because the former are based on how capable the students are in applying the knowledge acquired to situations that present in daily life, in that these tests permit the evaluation of the extent to which the students develop important competencies as well as comprehension and oral and written expression, the capacity to analyze, criticize, and synthesize, of logical thought, and the capacity of understanding problems, among many others, which are necessary components for constructing an acquis of optimal human capital.

What the data show is that in education in Mexico improvements should be implemented from the most basic up to the highest levels of education. These improvements should advance along two pathways: in the first place the dropping-out of school of children and young persons should be avoided. In second place, it should be urged that the education that the young people receive be at the leading edge and one of quality in order to endow them with the competencies necessary for succeeding in the vertiginous world of today in which we live. Together with the two previous points, we consider it necessary that simultaneously with the teaching of concepts and competencies, that children and young people, as applicable, are taught how these can be of service to them and how later on how they will be useful in their personal and professional lives.

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ANNEX