ARMENIAN EMPLOYERS SKILLS DEVELOPMENT

SURVEY AND RESEARCH REPORT

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JUNE 2021

ABOUT RUEA

Established in 2007, the Republican Union of Employers of Armenia (RUEA) is a non-profit, non-governmental organization that represents the common interests of employers in Armenia. RUEA implements business promotion and socio-economic development programs, and it is the only official social partner in the Armenia together with the Government of Armenia and the Confederation of Trade Unions of Armenia (CTUA).

MISSION

Promoting continual improvement of business environment, protecting interests of the business community and employers driving towards economic growth and prosperity.

VISION

Become the universal voice of employers - the most influential organization in Armenia representing economic, labour and social issues to foster sustainable and competitive entrepreneurship development and decent work creation.

MEMBERSHIP BENEFITS

We provide services targeted business development and strong continuity, and we represent the interests of RUEA members and the Armenian business community at various state levels. We also organize trainings, business forums, conferences, various events for our members, aimed at developing business networks, B2B and member-to-member cooperation, improvement of your business, as well as awareness increase about various legislative updates.

We can help you raise your business issues to the Government of Armenia, promote your business, establish business networks in Armenia and abroad. RUEA membership includes a number of advantages that can contribute to the success of your business.

RUEA TODAY

Today, RUEA has about 14000 member companies, representing about 20% of the businesses operating in Armenia in nearly all sectors of the Armenian economy. About 40% of total employees in the private sector are employed in RUEA members companies. RUEA unites 31 sectoral and territorial unions, which represent different sectors of the economy in all regions of Armenia.

BSC | BUSINESS SUPPORT CENTER

BSC MISSION

To think beyond the limits, to face the
obstacles and believe in opportunities,
to discover the hidden potential
and pursue excellence

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1. TASK ASSIGNMENT

High quality education, skilled trainings and learnings help people to find good job as well as help employers to find skilled workers, which brings to mutual growth. Well-educated and skilled workforce is the main strength of each country. Armenia is facing for a lack of well-educated labor force nowadays and it is really challenging.

In order to find out the reasons affecting the development of a skilled workforce of the country, ILO with RUEA initiated to conduct Armenian employers skills development survey and research. The project is being implemented in close cooperation with Republican Union of Employers of Armenia and BSC Business Support Center. The technical approach for the project was developed and detailed planned based on the objectives of the study.

The Project had two Specific Objectives:
- Conduction of Employers Survey on skills need in order to provide technical expertise to employers of Armenia to develop their skills agenda and to provide the conditions for the more active and substantial involvement of employers in the education and skills policies in the country.
- Conduction of firm level research to identify key skills issues facing employers. After which develop improved insights into the demand for skilled labor to provide inputs to future planning and programming of TVET in Armenia.

Taking into consideration the defined objectives and the specific conditions of the survey the research was done by BSC Business Support Center. As stated in the first stages of the project the total amount of expected sample was 1000 companies, of which 300 RUEA members, to be interviewed. The breakdown of the 1000 companies by sectors agreed with ILO was the following:
- By location: Approximately 65-70% in Yerevan, the 30-35% in all regions together.
- By size: not less than 5% big ones, 15% medium ones, the rest can be small ones.

A detailed approach and methodology were developed to meet the objectives of the survey and research.

2. METHODOLOGY

Taking into account objectives of the project, BSC conducted a national survey among companies to identify key skills issues of workforce to provide inputs for planning and programming of TVET in Armenia, as well as to contribute to more active and substantial involvement of employers into education and skills policies in the country.

BSC approach to the "Armenian Employers Skills Development Survey and Research" project was developed based on the following principles:

- **Tailored Solutions.** BSC used flexible approach to adapt its plans and methods to the local, economic, social and cultural environment. Advice, recommendations and activities were tailored to suit needs.
- **Team approach, good coordination communication and information strategy.** The complexity of having simultaneous processes requires good management and efficient use of the relevant resources. Therefore, applying a team approach, the best knowledge and experience of each expert were used in the most effective way - individually and collectively - suggesting solutions for the problems at hand.
- **The project combines horizontal and vertical activities.** Good coordination between all components of the projects is extremely important. Key experts assure an optimal communication, information sharing and consultation.

BSC maintains a strict adherence to quality control and management principles in its overall activities by developing workable coordination mechanisms, which include "two level coordination approach":

Internal Coordination – The Team Leader was responsible for coordination of activities within the team, by monitoring the assignment progress on daily basis and selecting

appropriate methodology for conducting the study and overall management of the assignment.

External Coordination – The Team Leader was the main focal point who connected the project team members and portfolio companies and was responsible for coordination of project activities with the project team on all technical issues to receive approval on the activities.

The following activities were conducted for the successful implementation of the project:
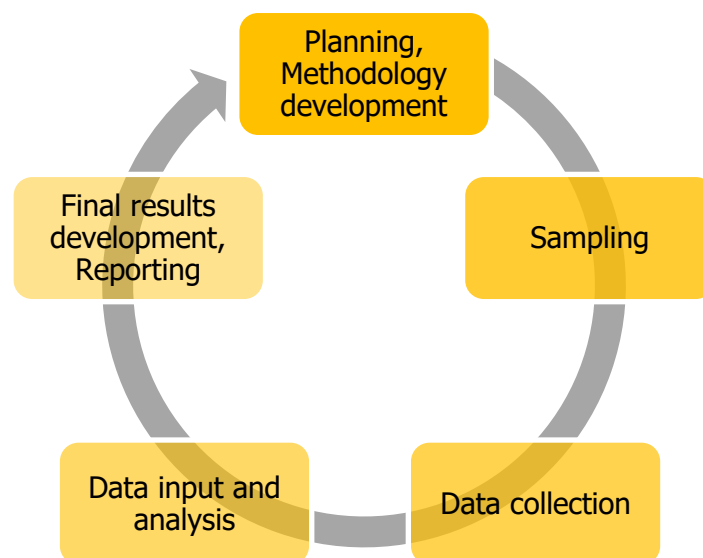
Diagram 1. Activities

2.1. Planning, Methodology Development

Brainstorming sessions were organized in order to discuss the planning process and methodology of project implementation. It helped to have the general picture of the project implementation, pros and cons of the entire route. During the planning stage the outline of the project justifications are made, list of requirements were outlined and the scope of the statement was indicated. The approach of implementation and methodology were developed.

For project implementation, BSC formed team by involving project coordinator, interviewers, research analyst, statistician, etc. Responsibilities were distributed for

each team member and all of them were involved in the process to make it faster and with quality.

2.2. Sampling

Based on the terms of reference of the project, during the stage of initial reporting the first preliminary sampling was developed. The total amount of expected sample was 1000 companies, of which 300 RUEA members. The breakdown of the 1000 companies by sectors (suggested by RUEA and agreed with ILO) is the following:

- By location: Approximately 65-70% in Yerevan, the 30-35% in all regions together.
- By size: not less than 5% big ones, 15% medium ones, the rest can be small ones.
- By sectors: detailed information presented on the Table 1.

Taking into account the suggestions made by BSC, the final version of sampling table agreed is:

Sector	Large companies		Medium ones		Small ones		Total
	Yerevan	Regions	Yerevan	Regions	Yerevan	Regions	
Industry, Metal processing	9	4	26	11	140	60	250
Agriculture and food production	2	1	5	2	28	12	50
Tourism & hospitality	1	0	3	2	17	7	30
Transport & logistics	1	0	1	1	8	4	15
Energy	1	0	1	1	8	4	15
Trade	16	7	54	22	281	120	500
Financial services & Insurance	1	0	1	1	8	4	15
Computer techniques or computer servicing	2	0	2	1	7	3	15
Chemical & cosmetic production	1	0	1	1	8	4	15
Pharmaceutics	0	0	1	1	6	2	10
Mining	0	0	1	1	6	2	10
Service providers	0	0	1	1	6	2	10
Business consulting, accounting & training	1	0	2	1	11	5	20

Alcoholic beverages	1	0	2	1	11	5	20
Construction	1	0	1	0	8	5	15
Production of construction materials	1	0	0	1	6	2	10

Table 1. Preliminary sampling

In order to identify effective sampling outcome, BSC interviewing team has gathered information and developed a list of 4800 companies. All the companies were contacted during the period. The majority refused to participate in the surveying process for some specific reasons. All the companies interviewed meet the requirements of initial agreed sampling.

During all the phases, BSC Quality Assurance procedures were applied and were committed to periodic executive review and evaluation of the management processes as well as overall performance to assure that the work done will meet relevant quality standards.

To reduce the survey bias, totally 1020 interviews were conducted. 12 filled questionnaires were eliminated because of inaccuracy. Thus the final amount of companies interviewed is 1008. The distribution of companies based on location, sector and company size are presented below:

Sector	Large		Medium		Small		Micro		Total
	Yerevan	Region	Yerevan	Region	Yerevan	Region	Yerevan	Region	
Industry, Metal processing	9	4	26	11	48	22	90	40	250
Agriculture and food production	2	1	5	2	5	9	21	9	55
Tourism & hospitality	1	0	3	2	6	2	11	5	30
Transport & logistics	1	0	1	1	3	3	6	1	16
Energy	1	0	1	1	5	6	0	1	17
Trade	16	7	56	22	33	4	252	110	500
Financial services & Insurance	1	0	1	1	7	2	1	3	16
Computer techniques or computer servicing	2	0	2	1	7	1	0	2	15
Chemical & cosmetic production	1	0	1	1	5	2	4	1	15
Pharmaceutics	0	0	1	1	1	0	5	2	10
Mining	0	0	1	1	3	1	4	1	11
Service providers	0	0	1	1	1	0	4	3	10

Business consulting, accounting & training	1	0	2	1	4	3	7	2	20
Alcoholic beverages	1	0	2	1	5	4	5	2	20
Construction	1	0	1	0	2	4	7	1	18
Production of construction materials	1	0	0	1	6	1	0	1	10
Total	38	13	104	48	141	64	417	184	1008

Table 2. Final interviewed sample size by sectors, company size and location

2.3. Data Collection

BSC team of interviewers were provided with necessary training on understanding the questionnaire and conducting interviews. The training had also the goal of training the interviewers on how to reduce the errors and to decrease the probability of mistakes in data collection process. Trainings with interviewers included topics on how to ask the right question and how to evaluate whether the answer is enough for the question, as well as providing unconscious bias. All the questions of questionnaire were read and discussed with interviewers in order to be clear. All the questions raised by interviewers were answered. The comments, suggestions, questions of interviewers contributed to have a well-trained team of interviewers for successful implementation of the project.

The questionnaire was updated and edited for gathering information from respondents. It consists of <u>open</u> and <u>closed</u> questions, which allowed respondents to choose from categories or to express their answers. Questionnaire had 7 main sections with its sub-questions. (Annex 1). The data collection process was organized with several approaches:
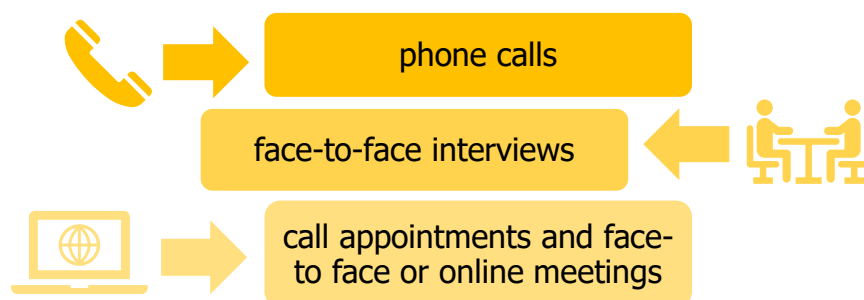
Diagram 2. Listing of data collection approaches

BSC has also kept the proportion of visits and calls, including interviews with target audience both online and offline. The methodology proposed for the activities within this project consists of combination of assessments all followed by reviews of the progress made. The research conduction consists of qualitative and quantitative approaches. It involves collection of information both from primary and secondary sources. The list of companies was developed using secondary resources. The main focus of information gathering was done from primary resources. These offer a structured approach to produce evidence-based findings and recommendations.

After each working day the filled questionnaires were brought and gathered in the BSC office, checked by the project coordinator. Data from fully filled, checked questionnaires were later inputted to the appropriate software for analysis.

In order to be sure in data collection accuracy, double-checking was performed in the process of data collection to be sure that the gathered information meets set requirements, the process of effective, productive and exact. This included random selection from the filled questionaries' pool and call checks, checks of answers, cross check of information from secondary sources, check of phone calls recording, where available, check of location of interviewers and companies, etc.

2.4. Data Input And Analysis

The data collection process was finalized, summarized and the gathered information was entered into software programs such as SPSS, MS Word/Excel. Quantitative data was mainly analyzed by using SPSS program.

To reduce bias from the questionnaire and interview process, BSC framed the following steps:

- Sampling size selection,
- Keep questions short and clear,
- Keep time period short,
- Double-checking of the process.

During data collection and entry process, different activities were performed such as:

- Editing and entering the data into computer,
- Tabulation of the data, cross tabulation,
- Analysis tables and charts, graphics and figures,
- Preparation of the draft report,
- Preparation of final report and recommendations.

The collected data during the study was analyzed to address the main objectives of the survey.

2.5. Final Results Development, Reporting

As a result of analysis the current final report of the survey, research was developed. The report includes detailed analysis of the gathered data, conclusions and recommendations. Main results of the survey, research are presented on the "Armenian Employers – Skills development survey and research" section of the Report.

3. ARMENIAN EMPLOYERS – SKILLS DEVELOPMENT SURVEY AND RESEARCH

Rapidly increasing labor market challenges and the flexibility of new type of job demand can be the sign to focus on the specific areas of education and trainings, in order to avoid and overcome the loss of qualified workforce. The development of a skilled workforce and the expansion of human capabilities through high-quality systems of education, training and lifelong learning are important for helping workers to find good jobs and enterprises to find the skilled workers they require.

Questionnaire of the current study includes the following main topics:

Basic Information and Workforce Occupational Structure and Characteristics

Education and Training System Policy

Recruitment & Recruitment Difficulties

Skills Used by the Current Workforce

Workforce Development

Demand for Workforce

Covid-19 influence
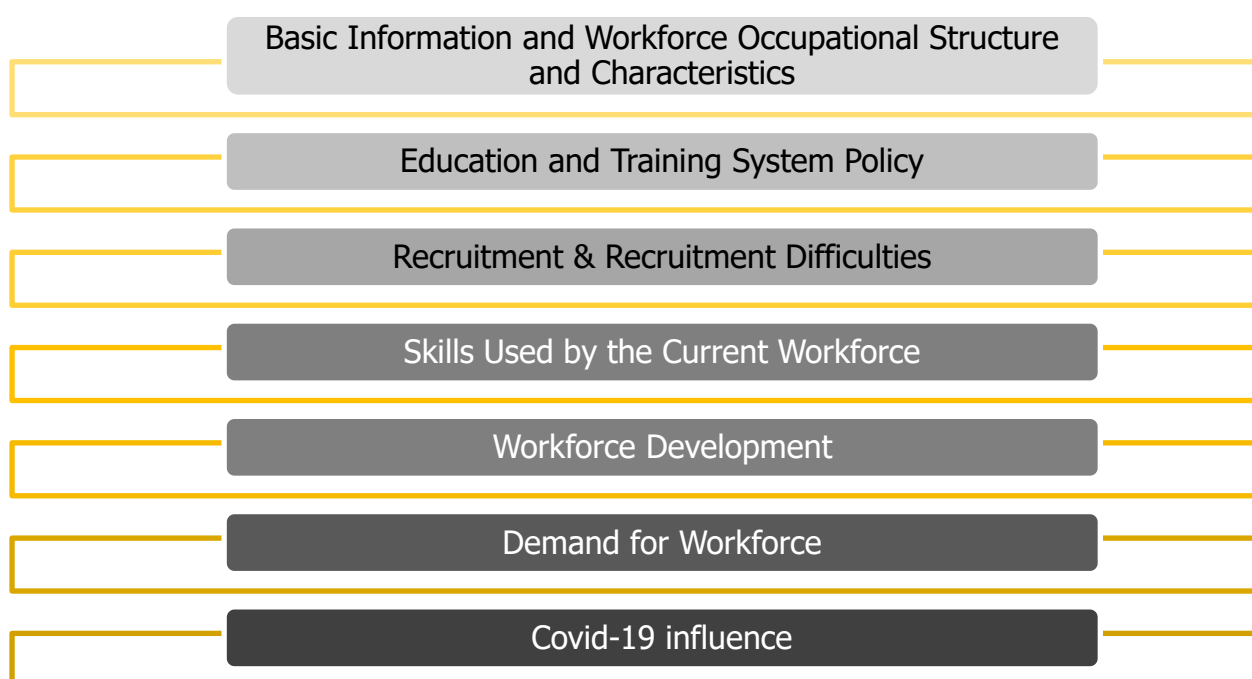
Diagram 3. Questionnaire blocks of the current study

The response rate disaggregated by gender is shown in Figure 1.
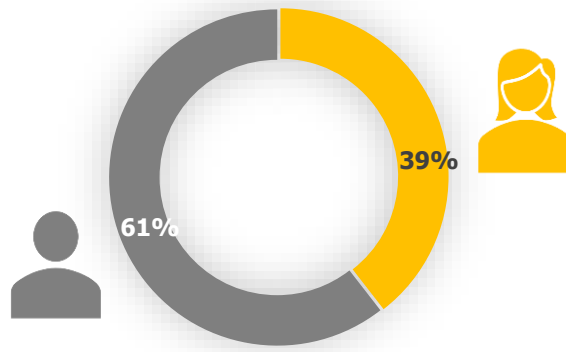
Figure 1. Gender distribution of the respondents

61% of the respondents were male and 39% were female.

3.1. Basic Information And Workforce Occupational Structure And Characteristics

Respondent companies' ownership structure is presented in the Figure 2.
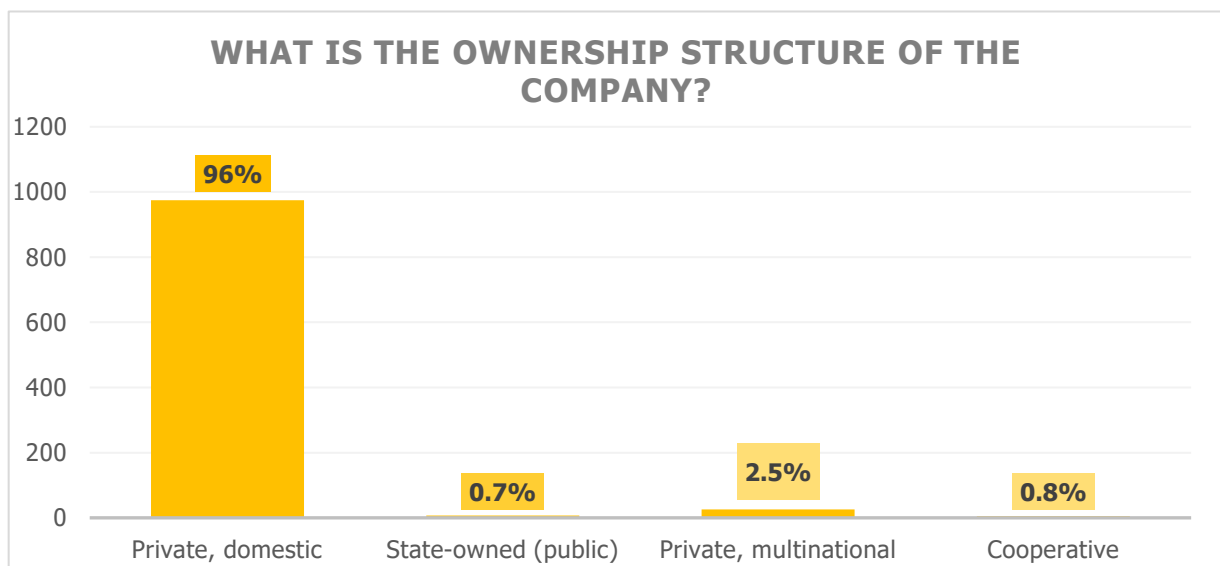
Figure 2. Ownership structure of the company

The mainstream 96% of the companies were from private sector, domestic market. Almost 2.5% of the companies were from private sector, multinational market. The distribution between state-owned and cooperative companies were 0.7% and 0.8% simultaneously.

The companies mainly operate in the following economic sectors:

Sectors	Total
Industry, Metal processing	**250**
Agriculture and food production	54
Tourism & hospitality	30
Transport & logistics	16
Energy	15
Trade	**500**
Financial services & Insurance	16
Computer techniques or computer servicing	15
Chemical & cosmetic production	15
Pharmaceutics	10
Mining	11
Service providers	10
Business consulting, accounting & training	20
Alcoholic beverages	20
Construction	16
Production of construction materials	10
Total	**1008**

Table 3. The companies by the sectors

All the companies meet the requirements of the preliminary sampling.

The biggest segment has Trade sector (500 companies), the second biggest share is industry (250 companies) and then comes agriculture and food production 55 companies, etc.

The size of the companies have the following pattern:
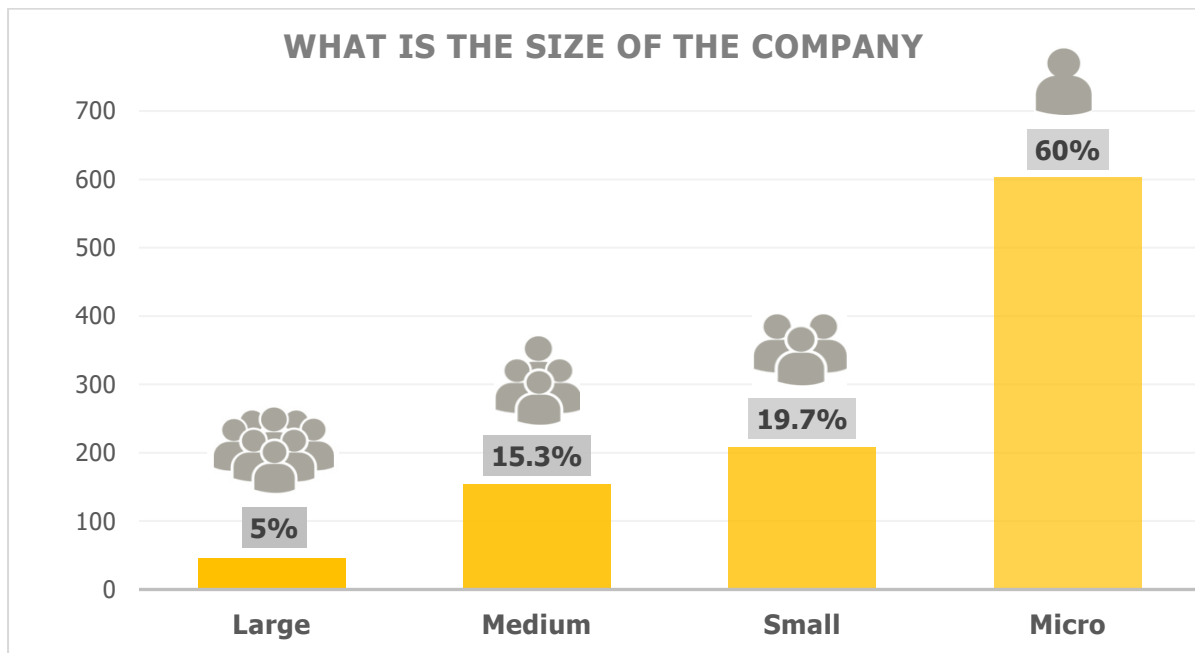
Figure 3. Company distribution by its sizes

The number of companies were definite by the following principles:

- Large (250 persons and more)
- Medium (50-250 persons)
- Small (10–50 persons)
- Micro (up to 10 persons)

The distribution of the market sales of the products or services of the companies were indicated:

- 86,7% (on average) of products are distributed locally, within a certain town or local area,
- 36,7% (on average) regionally within the country,
- 90,2% on average the products are distributed nationally,
- 10,3% on average are exporting their products and services.

The respondents were asked to indicate the educational level and the total number of employees, indicating the number of women employees.

Educational attainment	Total Number of employees	Number of women employed
Less than primary	0,9%	0,26%
Primary education	5,62%	1,12%
General secondary	26,62%	10,6%
Vocational education	10,75%	6,03%
Post-secondary	21,63%	10,95%
University - graduate	25,6%	13,21%
University - post-graduate	8,88%	4,48%

Table 4. Educational level of employees

The Table 4 shows that 26,62% of employees have general secondary education from which 10,6% are women. 25,6% of employees are university-graduates from which 13,21% are women employees. 21,63% of currently employed people have post-secondary level of education out of which 10,95% are women.

Table 5 represents the number of employees per occupation.

Occupation	Total N of employees	Number of women employed
Managers	8%	3%
Professionals	18%	10%
Technicians and Associate Professionals	5%	2%
Clerical Support Workers	7%	5%
Services and Sales Workers	18%	9%
Skilled Agricultural, Forestry and Fishery Workers	3%	2%
Craft and Related Trades Workers	10%	8%
Plant and Machine Operators and Assemblers	6%	0%
Elementary Occupations	25%	9%

Table 5. Occupation of employees

The respondents indicate that within the companies 25% of employees are people who hold elementary occupations, from which 9% are women. 18% of employees have the occupation of professional, from which 10% are women. 18% of employees are services and sales workers from which 9% are women employees.

The following statistical analysis was done to identify the percent of working women by segments.

Sectors	% of working women
Industry, Metal processing	62%
Agriculture and food production	55%
Tourism & hospitality	59%
Transport & logistics	57%
Energy	19%
Trade	44%
Financial services & Insurance	62%
Computer techniques or computer servicing	50%
Chemical & cosmetic production	53%
Pharmaceutics	40%
Mining	26%
Service providers	82%
Business consulting, accounting & training	61%
Alcoholic beverages	46%
Construction	24%
Production of construction materials	9%

Table 6. Employed women by separate sector

The highest percent (82%) of women are currently employed in service providing segments. 62% of women are working in industry, metal processing and financial services, insurance sectors. 61% of women workers are in business consulting, accounting and training sector.

3.2. Education And Training System Policy

In order to increase the number of the qualified stuff some changes should be performed in the educational sphere and some trainings should be accomplished for the employees. The Armenian national educational and training policy defines the content of education of certain level and focus, the volume of required knowledge and skills.
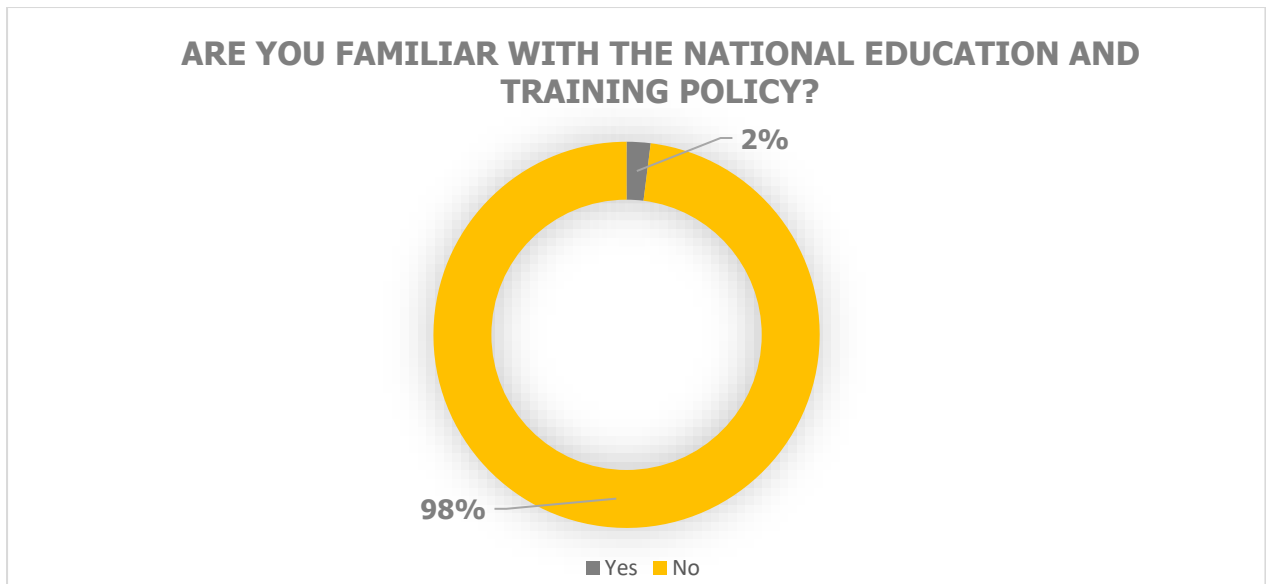
Figure 4. Distribution of respondents on being familiar to national educational policy

Only 2% of survey respondents are familiar with Armenian national educational and training policy. This percent of respondents could be a result of distribution of 1008 companies. Only a few Armenian companies are included in the board members of national institutions but our surveying companies were not selective, so this can be one of the reasons for such results.

The respondents were not always the director or owner, so this also can be a reason for not having sufficient information about National Educational polices as well.
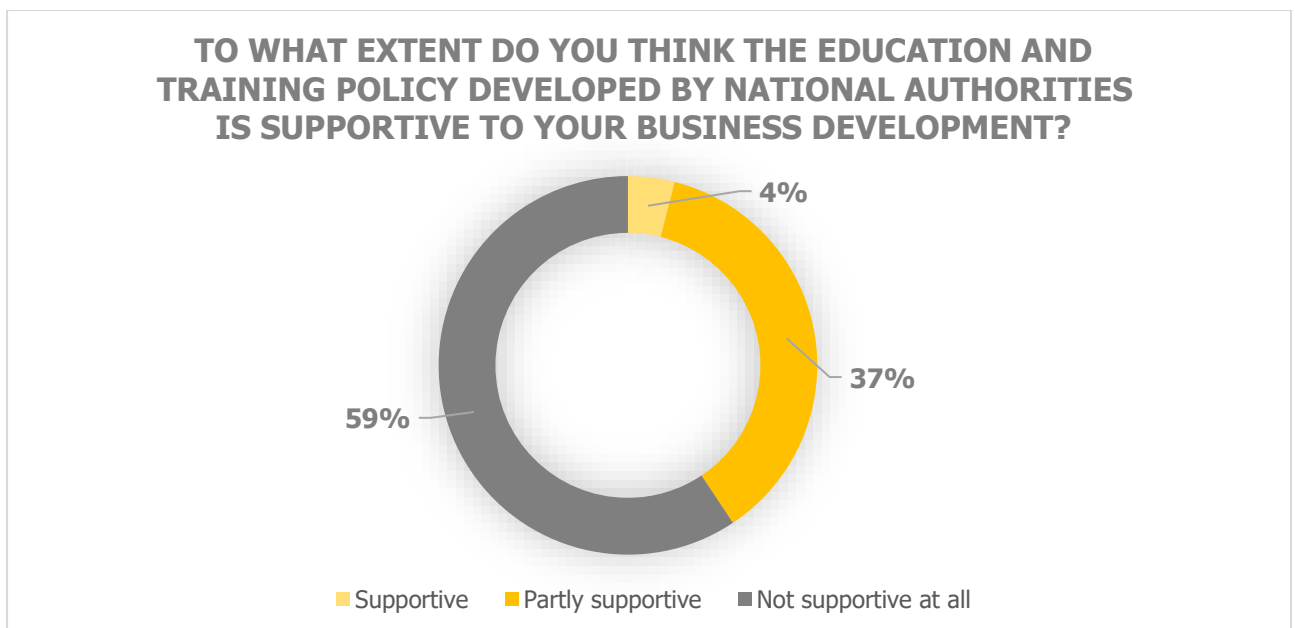
Figure 5. Supportiveness of the education and training policy developed by national authorities to the businesses

59% of responders indicated that the education and training policy developed by national authorities are not supportive to their businesses. 37% of the respondents think that it is partly supportive and only 4% answered that the national educational policy is supportive.

The next question was asked to respondents to clarify if the employers or companies are sharing their opinion when creating new educational policy or changing the existing one.
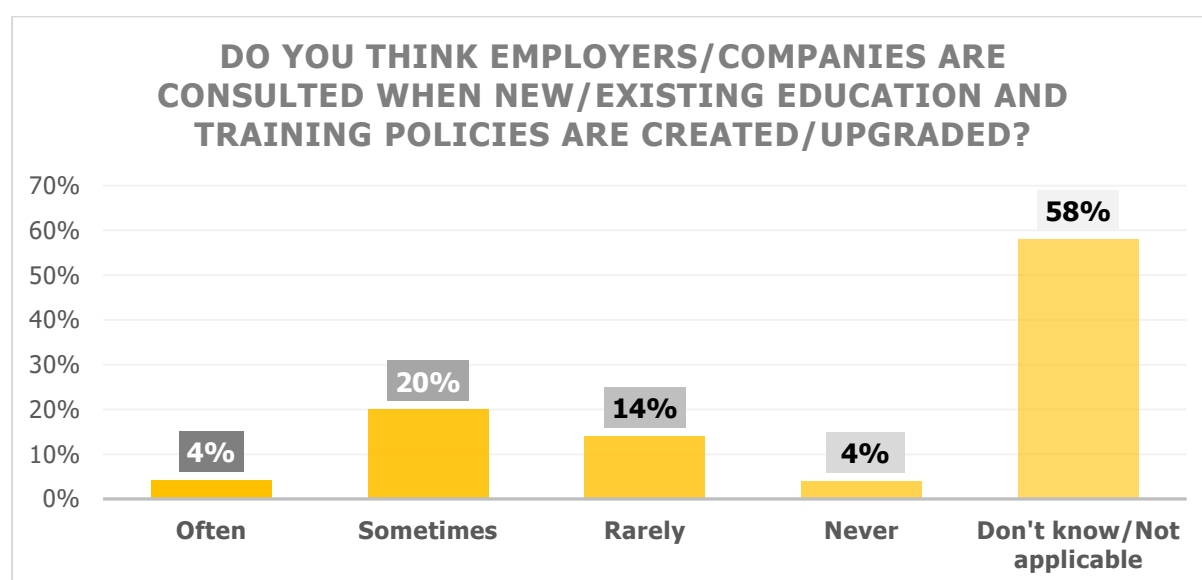
Figure 6. Consideration of employers/companies in the policy update process

58% of the respondents don't know about it, 20% responded that sometimes employers or companies are being referred about new/existing training policy changes and 14% find that they are being consulted rarely.
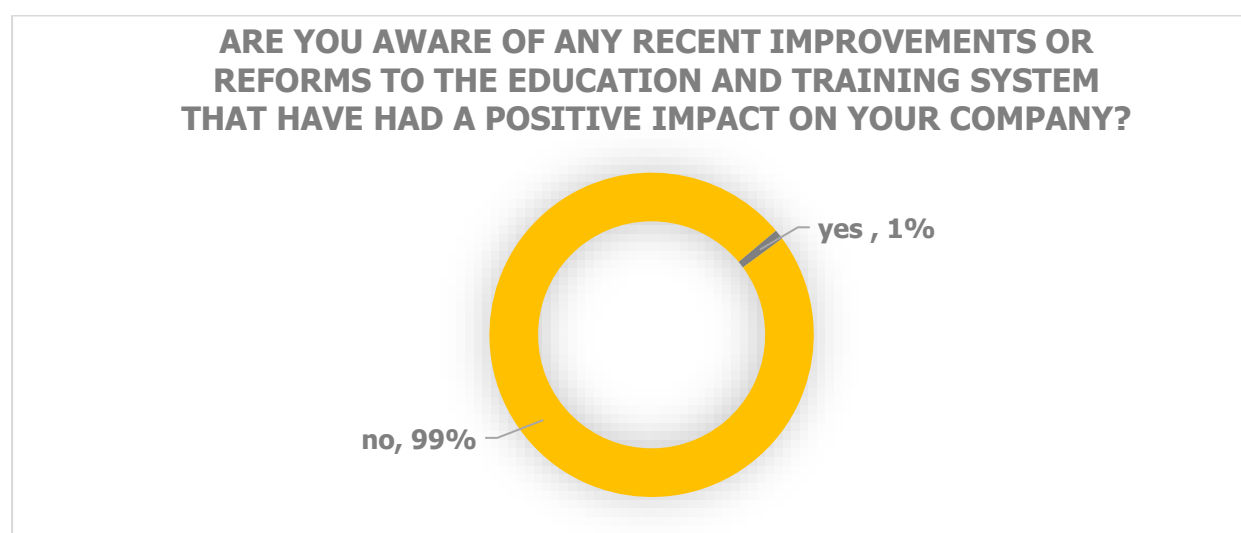
Figure 7. Awareness about the improvements to the education and training system

The responses show that 99% are not aware of any recent improvements or reforms to the education and training system.

The respondents were also asked about their involvement in the Armenian education and training system in the last 12 months.
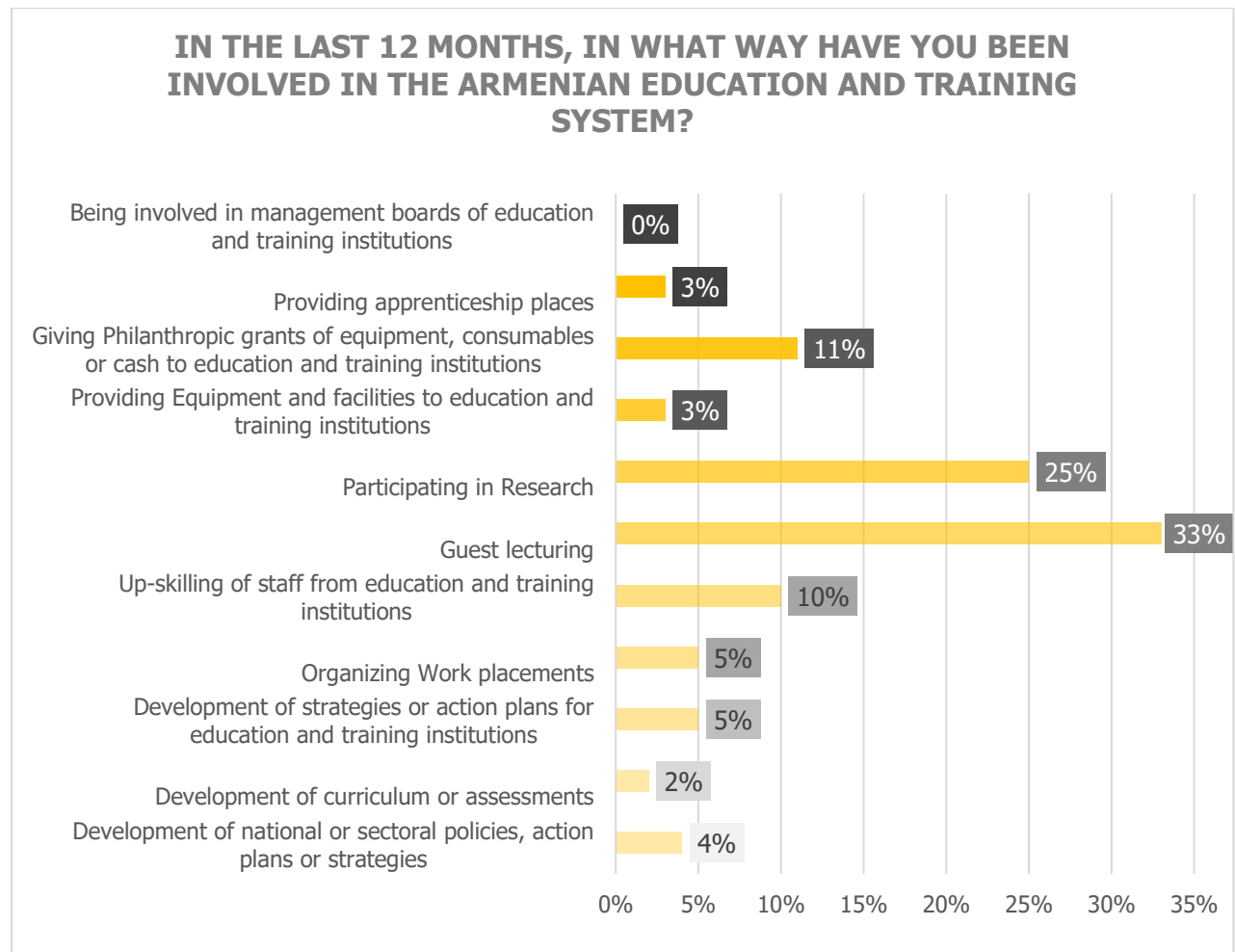
Figure 8. Involvement of respondents in the Armenian education trainings

From 1008 respondents only 101 have answered to the question. Figure 8 shows that 33% of survey respondents were involved in Armenian education and training system as guest lecturers. 25% were participating in research, 5% of the respondents were involved either in the development of strategies and action plans, or in the up skilling of staff from educational and training institutions.

It would be interesting to review the responses and opinions of respondents to understand the main shortcomings of Armenian educational and trainings system. (Figure 9):

IN YOUR OPINION, WHERE ARE THE MAIN SHORTCOMINGS OF ARMENIAN EDUCATION AND TRAINING SYSTEM, IF ANY?
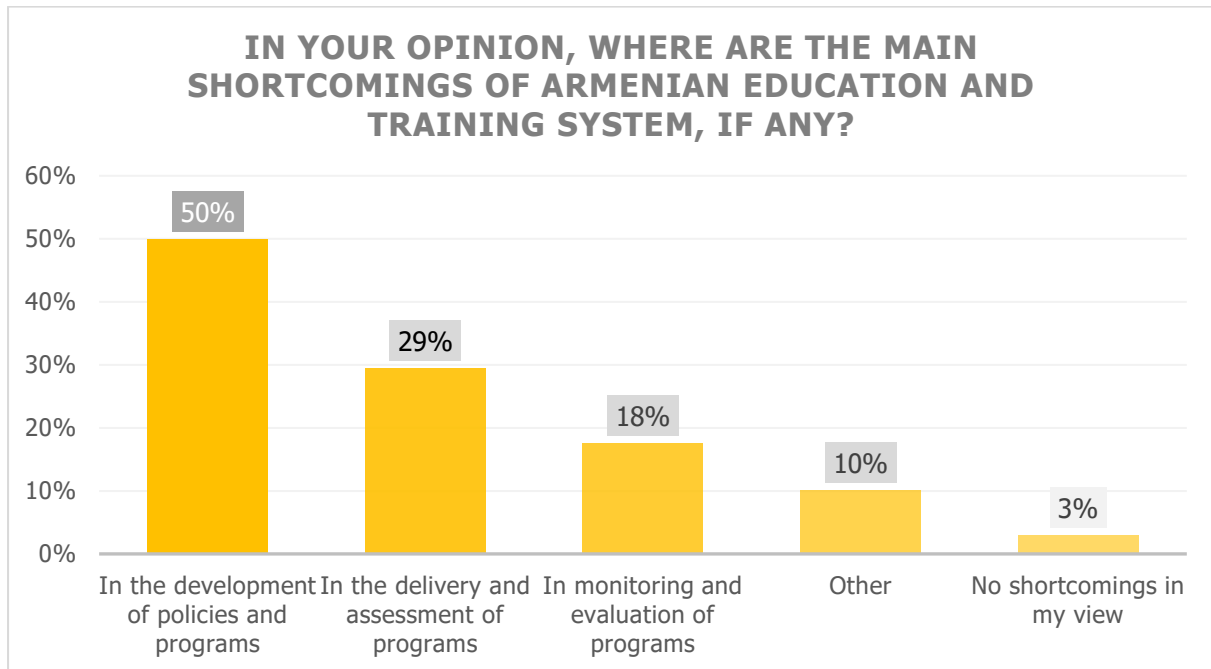
Figure 9. Shortcomings of Armenian educational and trainings system

50% of respondents think that the main shortcomings come from the policies and programs development then continues in the delivery and assessment of program (29%), monitoring and evaluation of programs (18%). Only 3% of the respondents think that there are no negative points in that sphere.

> * To overcome negative points in educational and training system practical skills need to be reviewed.
> * The trainings are not matching the market demand.
> * It is needed to pay more attention to educational level.
>
> *Comments from some*
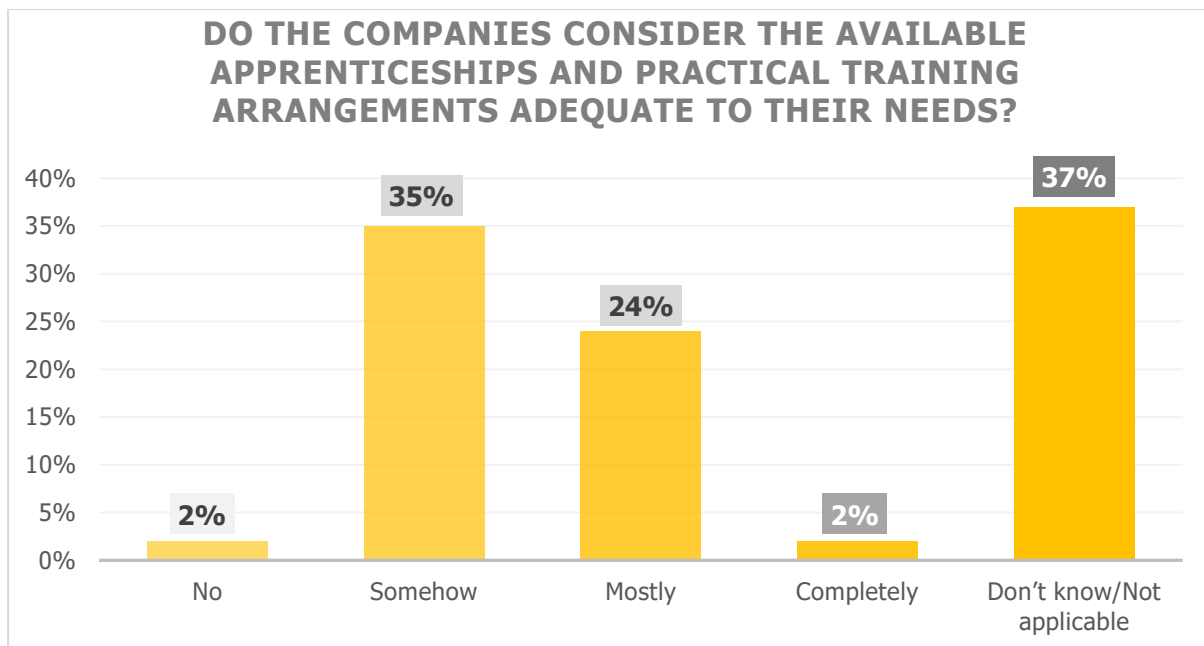
Figure 10. Adequacy of available trainings to the needs of companies

Another interesting question was addressed to the respondents concerning need based practical training importance and 37% of them think they don't know exactly, 35% think that the ongoing practical trainings somehow are equivalent to workplace needs. 24% participants think that trainings are mostly corresponding. Only 2% of respondents think that the trainings are completely not aligned with their needs or completely not acquiring their needs.

Training programs allow them to strengthen their skills and do some improvements. Employees participating in the necessary trainings are getting better in their job performance.
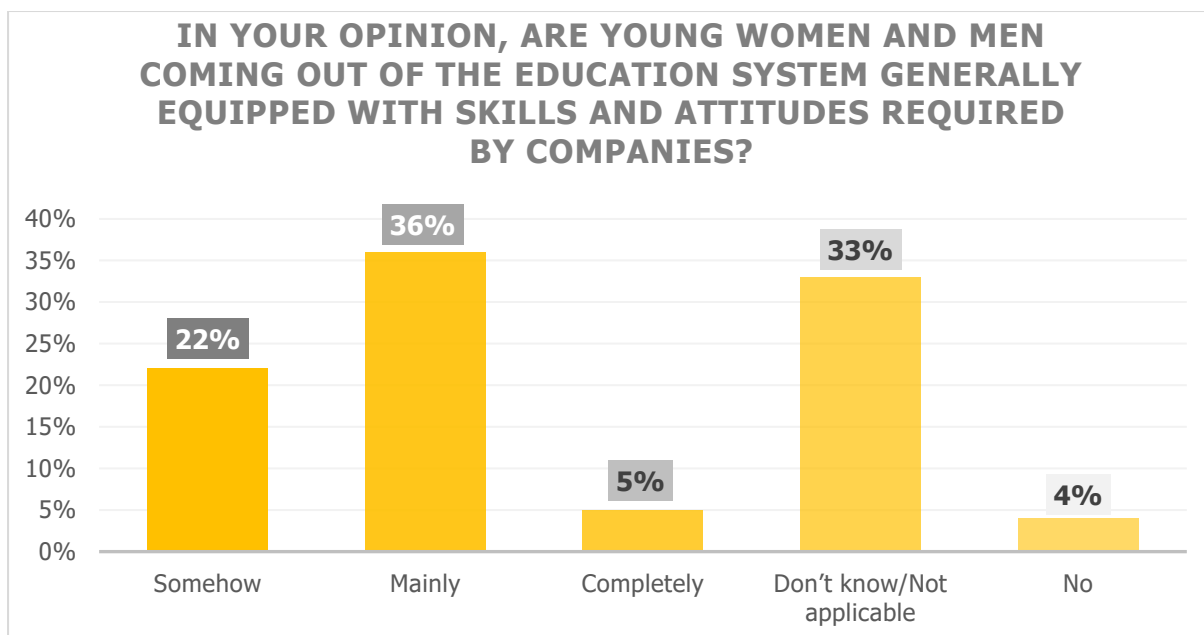
Figure 11. Relevancy of education background to the skills and attitudes required by companies

36% of the interviewed companies think that graduate young people are mainly equipped with the skills and attitudes required by companies, 33% think that it is not relevant or applicable and 22% think that the occupation is somehow relevant to employees' educational background.

- Technical and professional skills must be improved for job efficiency.
- In educational institutions attention should be paid on practical skills.
- Team working and problem solving skills are important in job finding process.

Comments from some respondents

In order to understand whether young women and men coming out of the education system are generally equipped with skills required by companies of the following sectors, the cross tabulation method was performed and the results are indicated below in the table 7.

Sectors	No	Somewhat	Mostly	Completely	Don't know/Not applicable
Industry, Metal processing	6%	29%	44%	4%	17%
Agriculture and food production	4%	32%	34%	11%	19%
Tourism & hospitality	7%	30%	**57%**	3%	3%
Transport & logistics	13%	38%	50%	0%	0%
Energy	0%	27%	**67%**	7%	0%
Trade	1%	14%	29%	5%	50%
Financial services & Insurance	6%	31%	50%	0%	13%
Computer techniques or computer servicing	14%	**71%**	7%	0%	7%
Chemical & cosmetic production	7%	33%	40%	0%	20%
Pharmaceutics	20%	20%	50%	0%	10%
Mining	0%	9%	55%	18%	18%
Service providers	0%	50%	30%	0%	20%
Business consulting, accounting & training	20%	25%	45%	5%	5%
Alcoholic beverages	5%	20%	**70%**	5%	0%
Construction	0%	25%	44%	0%	31%
Production of construction materials	0%	40%	0%	20%	40%

Table 7. Education system equipped with skills and attitudes-distribution by sectors

71% of Computer techniques or computer servicing sector employees are somehow meeting all the requirements of companies' needs. 67% of the energy sector and 70% of alcoholic sector people are mostly satisfying with their educational system's skills. Table 7 also shows that 57% of young people from tourism and hospitality sectors are mostly satisfying the requirements of companies in the terms of skills and attitudes.

Respondents answered what kind of actions educational institutions should take to overcome and improve the employability of their graduates (Table 8).

Options	Percentage
Consult with employers in better way to make courses more relevant	13%
To include more practical trainings in educational institutions	33%
To include field-specific skills in the trainings	22%
Facilitate relations between graduates and companies	18%
Involve social partners in management's board	3%
Involve employers directly in the delivery and assessment of training	5%
Other	6%

Table 8. Actions that should be taken to improve the employability of educational institutions graduates

In order to achieve effectiveness, 33% of respondents think that it will be good to include more practical trainings in educational institutions, 22% answered that field-specific skill trainings are more efficient. 18% of respondents think that the relation between graduates and companies must be facilitated.

13% of them think that the consultation with the employers will help with the relevancy of the course.   The respondents were asked what skill shortages there are in the companies. By their opinion, in order to fill gaps-communication skills, time management, flexibility and negotiation skill were indicated to be taken into consideration.

Figure 12 presents how responding companies think these skills shortages negatively affect the firms in their sector (in terms of loss of time, financial recourses, productivity, clients and quality).

HOW DO YOU THINK THESE SKILLS SHORTAGES NEGATIVELY AFFECT THE FIRMS IN YOUR SECTOR (IN TERMS OF LOSS OF TIME, FINANCIAL RECOURSES, PRODUCTIVITY, CLIENTS AND QUALITY)?
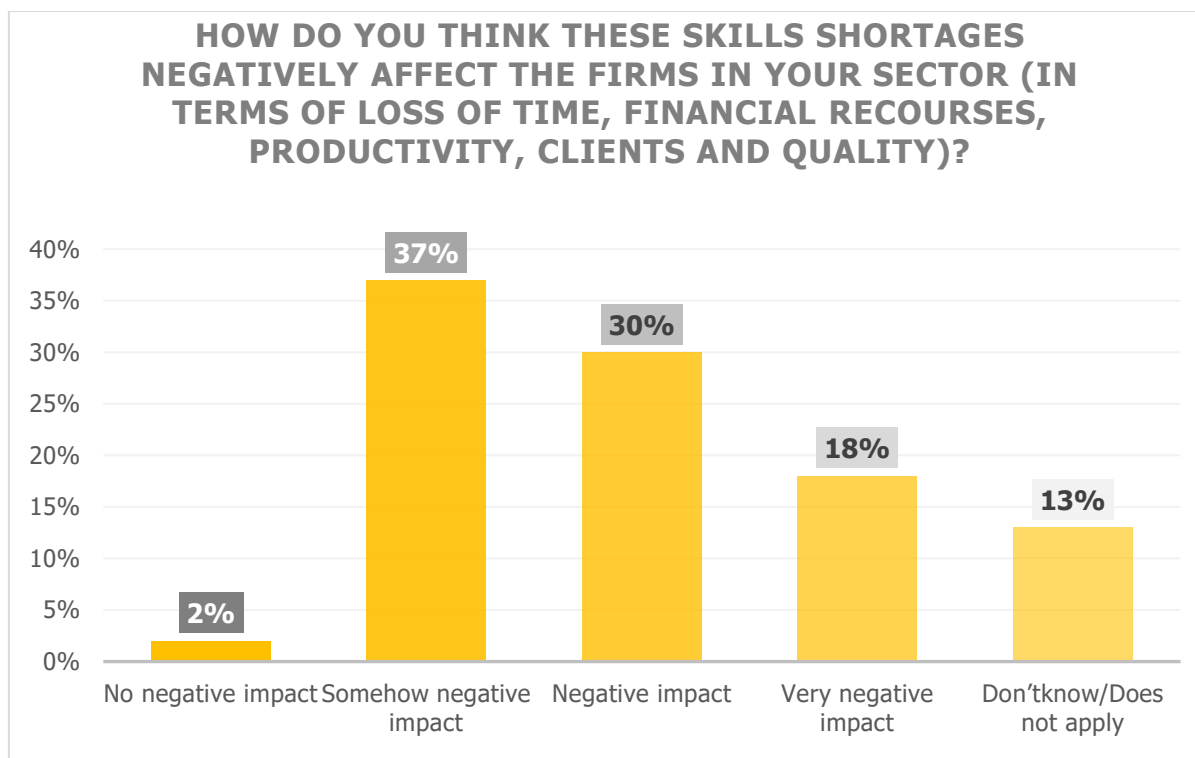
Figure 12. Affect of skills shortages on the firms

37% of the respondents think that skills somehow have negative impact on some specific sectors and 30% think they definitely have negative impact. 18% answered that it has very negative impact. 13% of surveying companies doesn't know or it is not applicable for them and only 2% think that no negative impact is performed.

The companies, who were participating in surveying process, were asked if they know any State employment and Training scheme availability for assisting in company's skill shortages.

DO YOU KNOW WHETHER THERE ARE STATE EMPLOYMENT AND TRAINING SCHEMES AVAILABLE THAT COULD ASSIST COMPANIES WITH SKILLS SHORTAGES?

2% 1% 1% 4%

- No
- They were available in the past
- They will be available in the near future
- Yes
- Don't know

92%
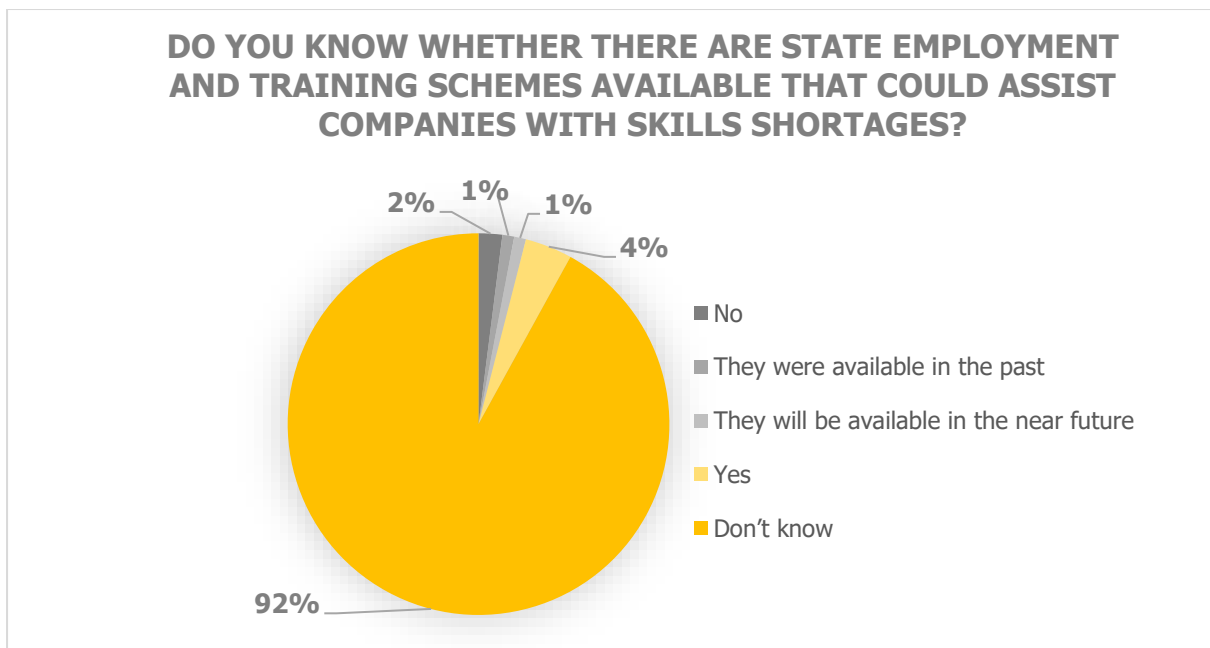
Figure 13. Awareness of State employment and training schemes for assisting companies with skills shortages

94% of respondents don't know about this kind of agencies and only 4% of them know about State employment and training agencies, but they don't know if their activities are relevant to the companies needs or not. Only 4% of respondents were aware about the schemes.

Figure 14 shows, how straightforward were or are the institution's access to these schemes.

HOW STRAIGHTFORWARD WERE OR ARE STATE EMPLOYMENT AND TRAINING AGENCIES TO ACCESS THESE SCHEMES?

0.30% 2% 1.70% 1%

- Not straightforward
- Somewhat straightforward
- Straightforward
- Very straightforward
- Don't know/Does not apply

94%
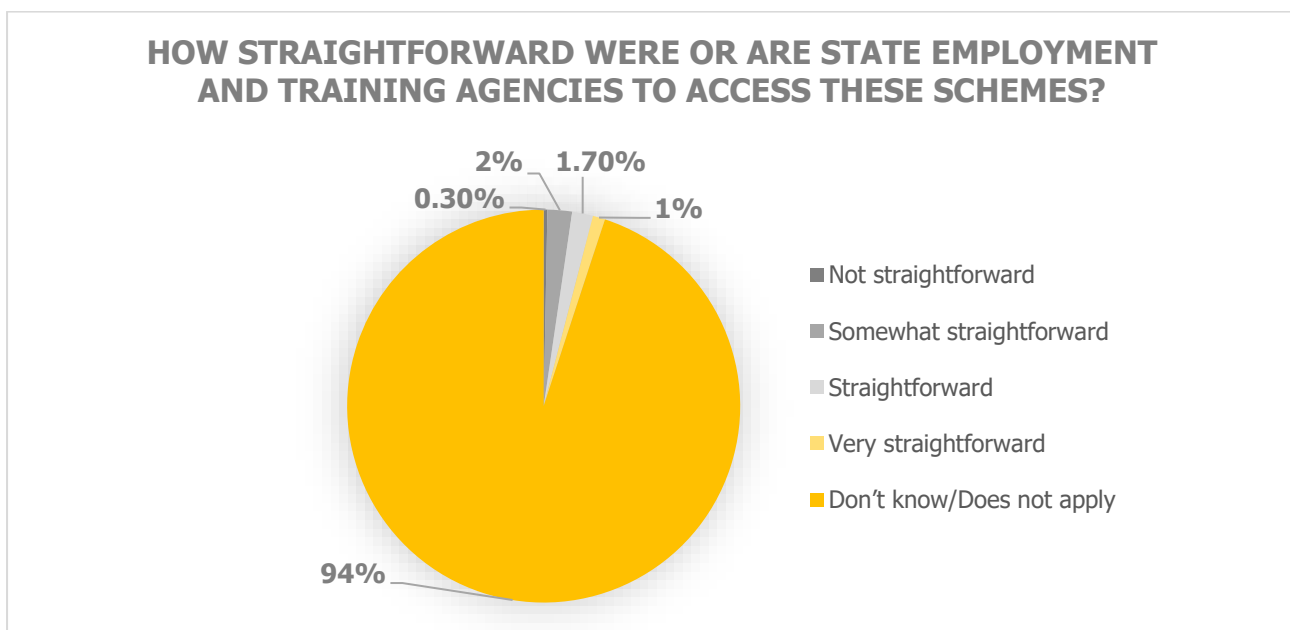
Figure 14. Straightforwardness of state employment and training agencies to access

In Armenia State Employment Agency supports jobseekers to find a job and on the other hand helps employers to find a qualified specialist. According to survey results, 94% of the respondents don't know how straightforward are their activities toward companies.

3.3. Recruitment & Recruitment Difficulties

Selecting the right candidate is the most important activity of recruiting. Recruitment can be challenging as the recruiter must develop some goals and objectives, have some recruiting strategies based on company's goals and needs.

DO YOU EXPECT TO RECRUIT NEW WORKERS IN THE NEXT 12 MONTHS?

Yes, 40%

No, 60%
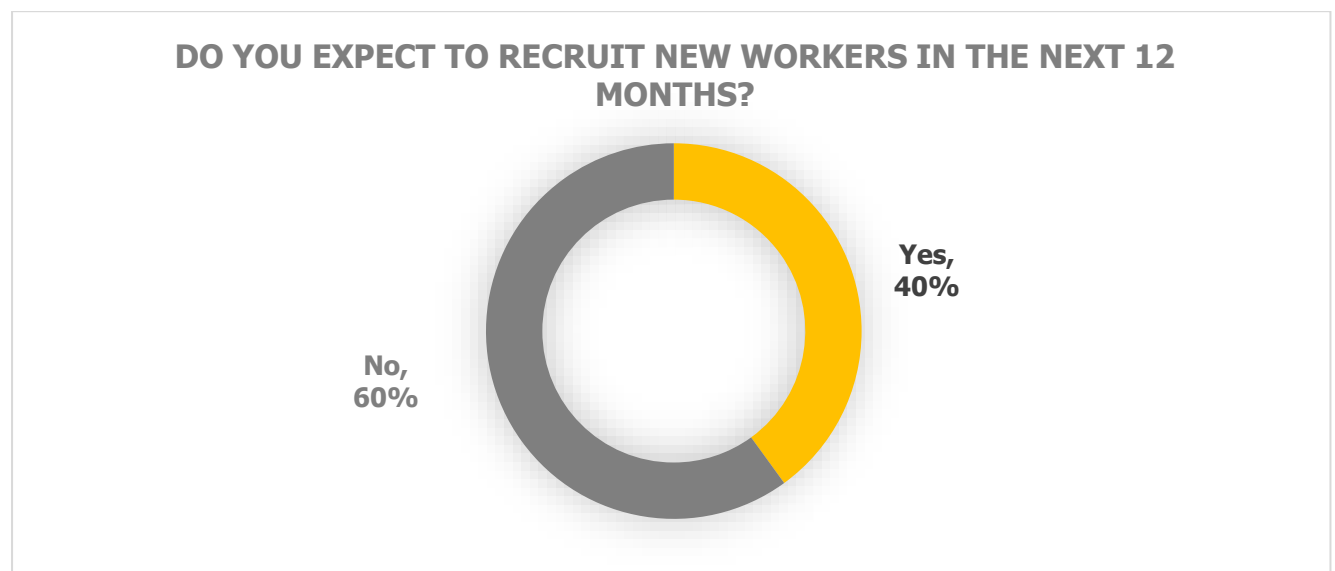
Figure 15. New worker recruitment

Figure 15 shows that 40% of the companies from total responders are expecting to have new job vacancies for the upcoming 12 months.

The companies, who had vacancies, also were asked to clarify what kind of occupations and what level of education of employees they expect when recruiting (Table 9).

Educational level/ Occupations	Managers	Professionals	Technicians and Associate professionals	Clerical Support workers	Services and sales workers	Skilled agricultural, forestry and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations
Less than primary	-	-	-	-	-	-	-	-	-
Primary education	-	-	-	-	-	-	-	-	-
General secondary	-	-	11%	31%	8%	-	8%	6%	50%
Vocational education	-	-	-	-	-	25%	-	-	1%
Post-secondary	2%	10%	71%	-	12%	75%	22%	61%	13%
University - graduate	93%	70%	9%	69%	55%	-	3%	28%	-
University - post-graduate	-	-	-	-	-	-	-	-	-
No preference	5%	20%	9%	-	31%	-	67%	3%	36%

Table 9. Occupations and levels of education, which are expected from hiring companies

There are vacancies on 63% of clerical support workers and 90% of managerial positions with graduate degree. The demand of professionals with university graduate number is 70%. 75% of skilled agricultural, forestry and fishery workers need post-secondary background to be recruited.

Respondents were also asked to rank some factors based on their importance when recruiting (on a scale from 1 to 5, where 1 is totally not important, 5 is very important):
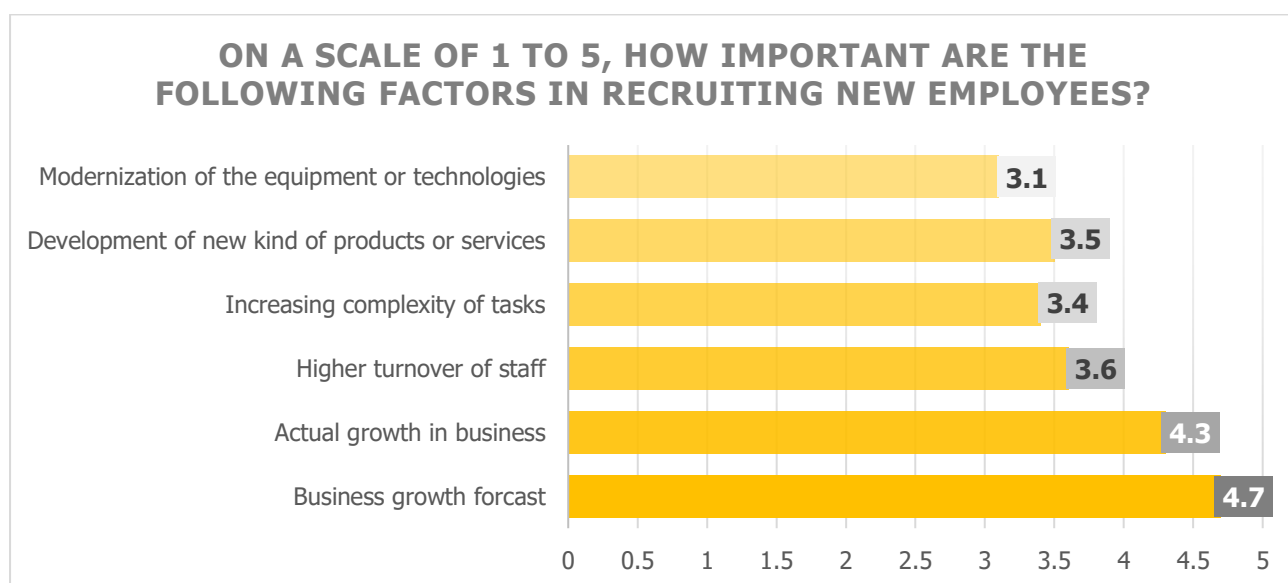
Figure 16. Distribution of importance of factors, when hiring employees

The results show, that the most important factor (4.7 out of 5) employers take into consideration for new hires is the business growth forecasting.

Hiring the right employee is the first important step in company development strategy. Engaged, motivated, and highly productive employees can help businesses in any industry achieve their actual growth targets.

Based on the survey, 4.3 points out of 5, was indicated for actual growth in business as a factor. Higher turnover of staff was indicated 3.6 and the development of new kind of product and services 3.5.

3.4 points out of 5 were the increasing complexity of tasks. The last point regards to modernization of the equipment or technologies – 3.1 points.

The following activities are performed to fill the open vacancies in the company (Figure 17).
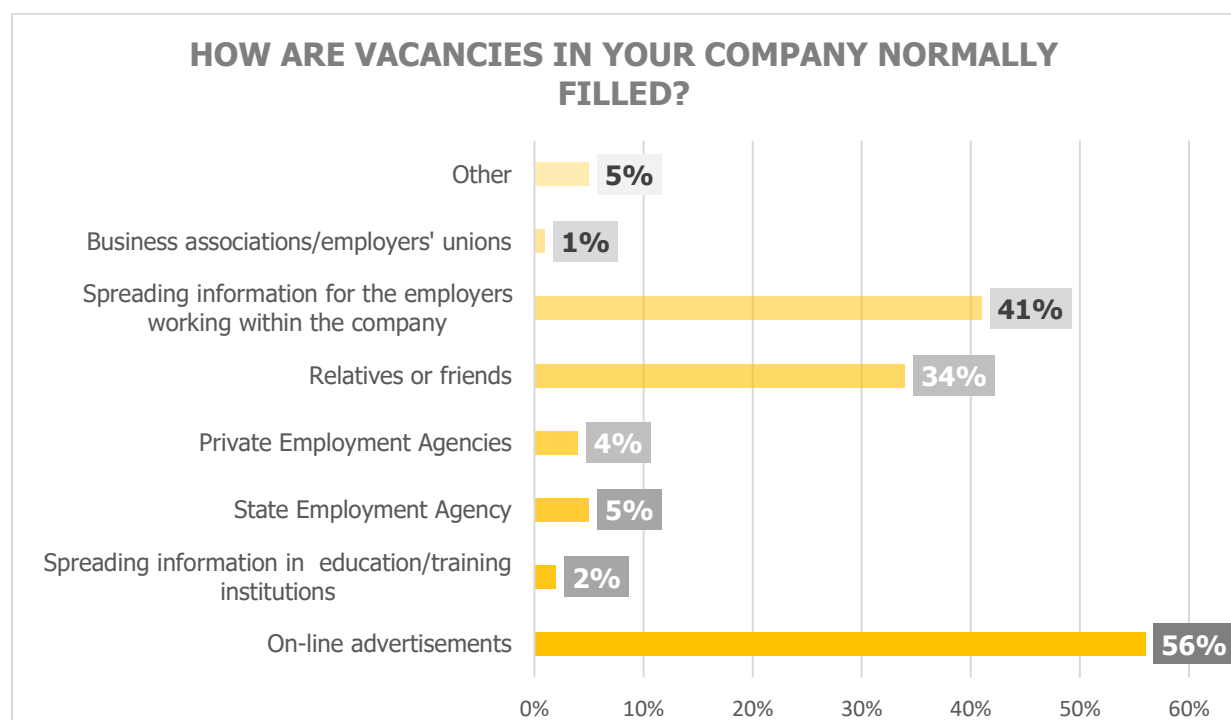
Figure 17. Distribution of new vacancy announcement

Online recruitment has quickly became the preferred way of finding new employees (56%). Posting new vacancy opportunities online or via social media platforms gives an opportunity to reach a large audience.

41% of surveying companies think that conducting internal recruitment first is more preferable and if it is unsuccessful, then turning to external is coming afterwards. In particular, the internal recruitment has many advantages as hiring new employee within the company is time saving, employee already knows the staff and the employee recognition period is reducing as well.

34% of responders think that spreading information via relatives and friends is also a good way. State/private agencies have 4% and 5% distribution, spreading information via institutions and business associations have 2% and 1% distribution simultaneously.

Depending on the segment of job-seekers, the online and offline job announcements are adopted differently and 5% of the responders think that offline job announcements will be preferable.

It is interesting to know how many vacancies do the surveying companies have by the moment of interviewing.
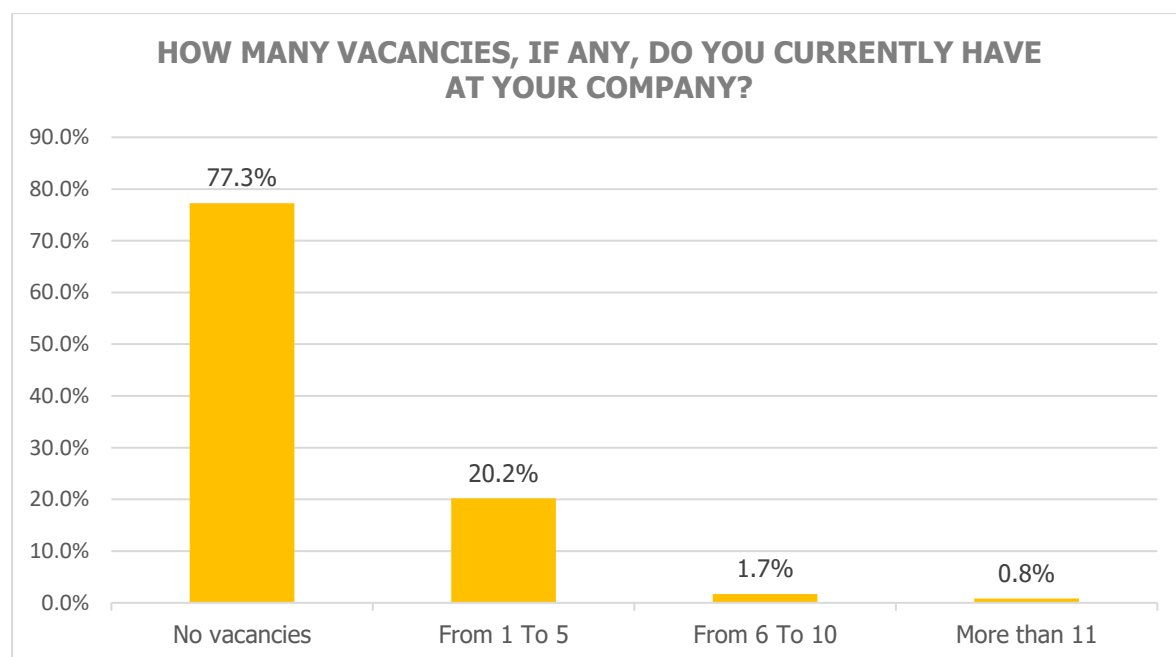
Figure 18. New vacancies availability in percent

In 77.3% of companies, there are no vacancies available. Only 20.2% of them have from 1 to 5 open vacancy.

In order to clarify the number of vacancies currently the companies have separated by the sectors, cross tabulation analysis was performed.

Sectors	Number of vacancies
Industry, Metal processing	285
Agriculture and food production	83
Tourism & hospitality	38
Transport & logistics	9
Energy	3
Trade	154
Financial services & Insurance	7
Computer techniques or computer servicing	43
Chemical & cosmetic production	13
Pharmaceutics	2
Mining	15
Service providers	30
Business consulting, accounting & training	23
Alcoholic beverages	2
Construction	44
Production of construction materials	14
Total	765

Table 10. Vacancies separated by sectors

Table 10 indicates that totally there are 765 free vacancies announced by survey respondent companies. 285 vacancies are announced by industry, metal processing sector and 154 vacancies are in trade sector. Agriculture and food production currently has 83 job vacancies

The next table presents specific occupations in which companies currently have vacancies.

Occupation/Education	Primary education	General secondary	Post-secondary	University - graduate	University - post-graduate	No preference
Accountant	-	-	-	100%	-	-
Administrator	33%	-	-	100%	-	-
Customer care	-	33%	-	67%	-	-
Cleaner	-	80%	20%	-	-	-
Designer	-	-	-	67%	-	33%
Driver	-	-	25%	-	-	75%
Engineer	-	-	-	100%	-	-
Manager	-	-	-	89%	-	11%
Master	-	20%	67%	7%	-	7%
Sales manager	-	7%	7%	65%	-	21%
SMM, Marketing	-	-	-	83%	-	17%
Tailor	-	20%	67%	-	-	13%
Worker	-	71%	15%	-	-	15%
Welder	-	40%	-	40%	-	20%

Table 11. Occupation based on educational level in % on which companies have vacancies

The demand in surveying companies is high for the accountants (100%), administrators and engineers with graduate degree, managers (89%) and SMM, Marketing specialists (83%) with university graduate degree and cleaners (80%) with secondary educational level.

Depended on the size of the companies, free vacancies have been filled with the following way:

Channels	Large	Medium	Small	Micro
Online advertisements	53%	53%	44%	31%
From education/training institutions	5%	2%	1%	1%
From State Employment Agency(s)	8%	3%	5%	3%
From private employment agencies	5%	4%	3%	2%
Relatives or friends	12%	14%	19%	30%
Promoting employees already in enterprise	16%	23%	28%	33%
From business associations/employers' unions	1%	1%	0%	1%

Table 12. Directions of filling vacancies by company size

From the first row of the table 12, the percent from large and medium company sizes to micro are decreasing for online advertisements (53%-31%), and on 6th row of the same table, the number is increasing (16%-33%).

	Large	Medium	Small	Micro
Director	34%	61%	89%	99%
Department or responsible HR person	66%	39%	10%	1%
NA	0%	0%	1%	0%

Table 13. Responsible of recruitment department by company size

Table 13 indicates that 66% of large companies have separate HR department.

Analysis show that companies are using online portals for free vacancies advertisement. The portals are payable and the large companies can afford to direct funds for recruitments.

- Large companies have HR departments, which are using the online channels for finding the best employee. (Table 13)
- Large companies are cooperating with educational institutions.
- Micros are hiring employees more by the referrals of relatives or friends.

Every employer or recruiter wants to fill positions with the best talent, but the process can be challenging, as recruiting for highly technical or other hard-to-fill positions requires a fresh approach and strategy.

Surveying companies were asked to select the most important reasons, which make vacancies hard-to-fill. (Table 14)

Hard-to-fill points / occupations	Sales Managers	Engineer	Designers	Managerial positions	Marketing specialists
Low number of jobseekers generally					
Not enough people interested in this job	V				
Suggested salaries are too low		V	V		
Unattractive working conditions					V
Lack of career prospects					V
Applicants lack the required work experience	V				
Applicants have poor attitudes, motivation	V			V	
Applicants have poor qualifications/skills	V		V	V	
Applicants have poor education level		V			

Table 14. Hard to fill occupations and reasons of it

Table 14 shows that not enough people are interested in sales manager position, also they have a lack of required work experience, poor attitude, motivation, poor qualifications/skills. Suggested salaries are too low for engineering positions and designers. On the other hand respondents mentioned that engineers mostly have poor education level and this makes the vacancy hard-to fill one. People who apply for managerial positions have poor attitudes, motivation, skills. For marketing specialist working conditions are mostly not attractive and there is a lack of career prospects.

In order to overcome difficulties in this situation, companies apply the following strategies.

Plans/occupations	Sales Managers	Engineer	Designers	Managerial positions	Marketing specialists
Increase salaries to make the job more attractive		V	V		
Increase the trainings for existing workforce	V	V			V
Redefine existing jobs	V			V	
Use technology as a substitute for labor					
Expand recruitment channels	V		V	V	
Apply to State employment or training scheme	V				V
Improve working conditions including OSH	V				

Table 15. Companies plans to overcome hard-to-fill position gap

In order to increase sales managers occupation strategies the trainings must be increased for this category, expand the recruitment channels, include working conditions, expand recruitment channels, etc. Respondents find it useful to increase salaries and trainings for engineers to keep work attractive.

The table below shows how well graduates students were prepared for work depending on the size of companies.

	Large	Medium	Small	Micro
Very well prepared	11%	3%	16%	15%
Well prepared	59%	47%	32%	37%
Prepared	24%	40%	42%	36%
Poorly prepared	5%	6%	9%	12%
Very poorly prepared	0%	3%	2%	0%

Table 16. Level of being prepare for work depending on company size

Table 16 indicates that well prepared graduate students are working for medium (47%) and large companies (59%). Very poorly prepared graduates from large sectors (0%) also confirms the fact that large companies prefer having strong barriers for admitting new hires.

The figure below presents if the company hired graduates from secondary school, technical and vocational institution or university in the last 24 months:
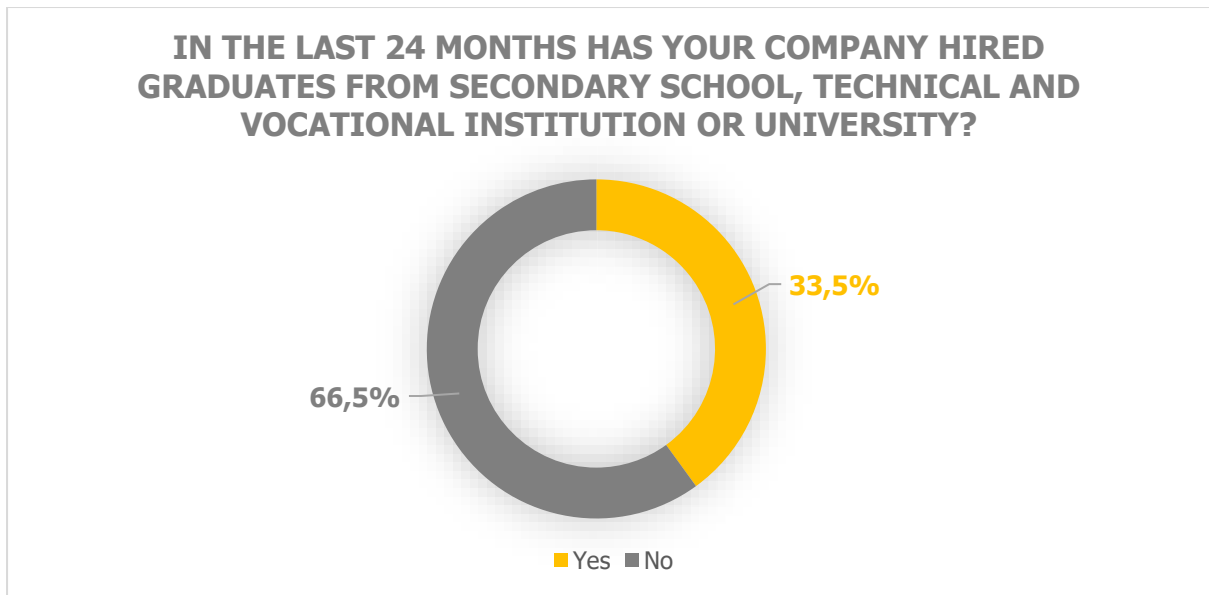
Figure 19. New hires from schools, institutions

The results show that 33,5% of companies hire graduates from school, technical and vocational institutions or university.
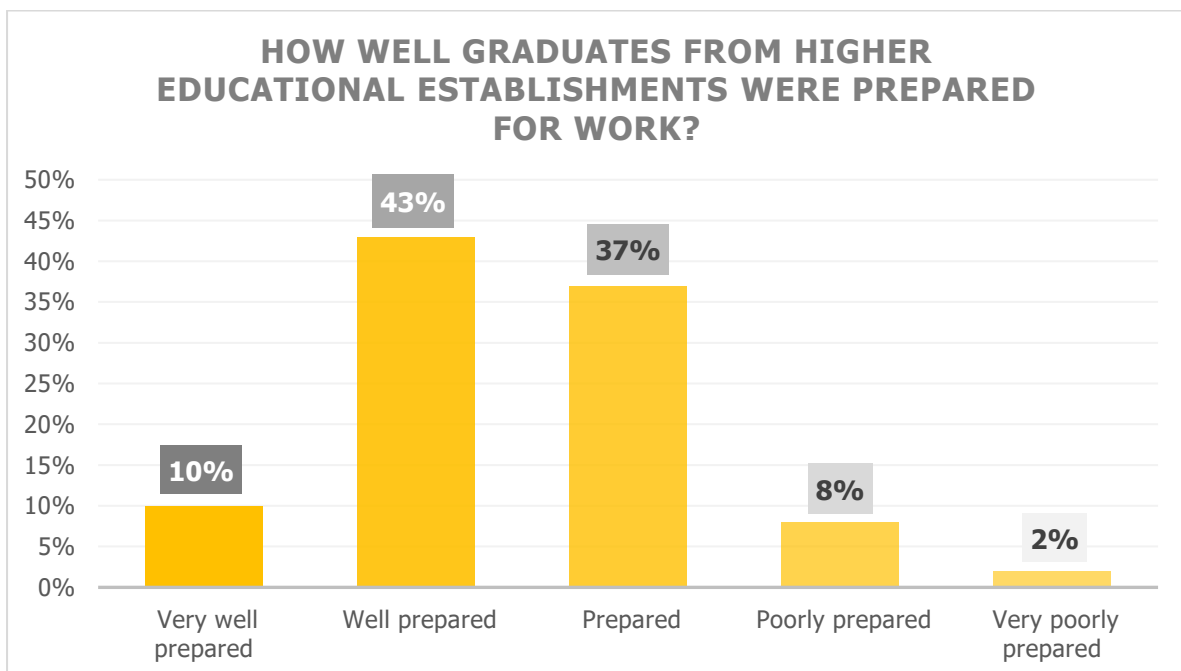
Figure 20. Degree of graduates from higher educational establishment of being prepare for work

Figure 20 shows that 10% of respondents find them very well prepared, 43% find graduate students were well prepared for new work challenges, 37% find they were

prepared, 8% find they were poorly prepared and only 2% find that they were very poorly prepared.

Hiring someone who is just starting out their career has its pros for the employer. This can be a good chance for the company to train the worker by the way they need and having no experience is a plus in this case, as employees will learn and work in a new industry and it will be a good opportunity given to them.

HOW WELL TVET GRADUATES WERE PREPARED FOR WORK?
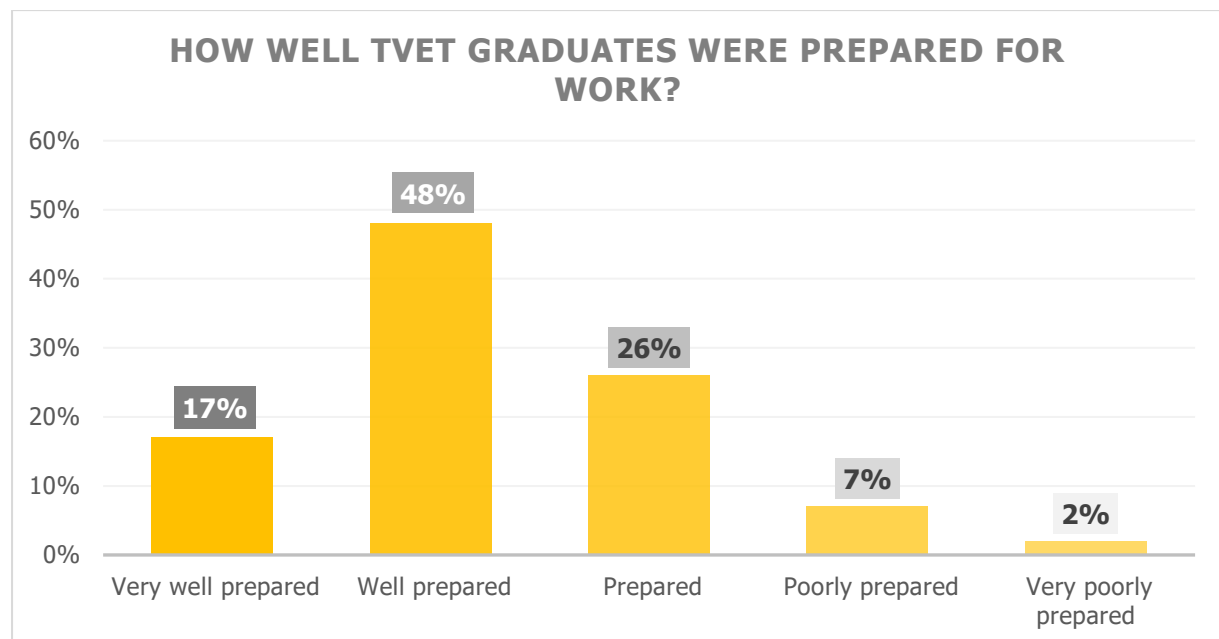
Figure 21. Graduate students with TVET background

The 17% of respondents mentioned that TVET (Technical Vocational Education and Training) graduate students were very well prepared for new jobs, 48% of them mentioned, they were well prepared, 26% were prepared and the rest poorly and very poorly were prepared.

Another question addressed to responder companies to clarify TVET recruitment details.
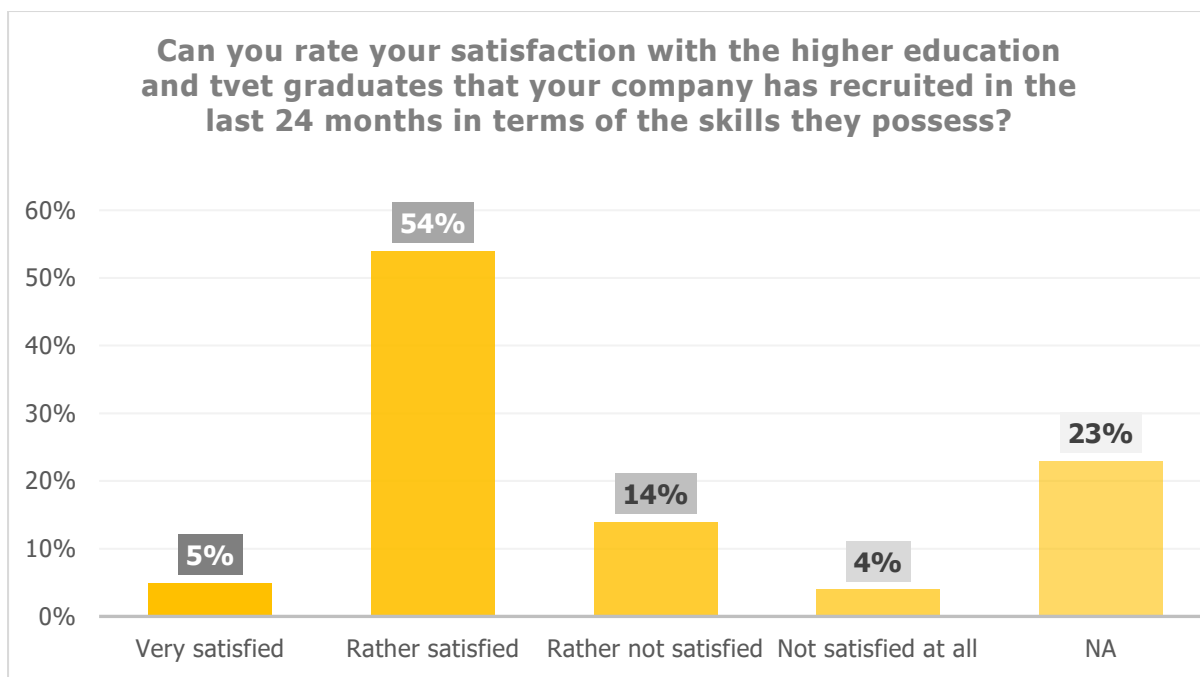
Figure 22. Satisfaction with higher education and TVET graduates in terms of skills

5% of the responder companies are satisfied with the TVET students, 54% are rather satisfied with the background of TVET students, 14% and 4% are rather not satisfied or not satisfied at all.

Employability skills are very important for TVET graduates. To improve their skills and prepare them for future job market, the results indicate that especially the following skills are required to have TVET/graduate students:

- Technical skills
- Communication skills
- Team working
- Flexibility and adaptability
- Self-motivation
- Ready to learn
- Organizational skills.

3.4. Skills Used By the Current Workforce

To reveal the most important particular skills for businesses, companies were asked about the importance of the skills demonstrated in the Figure 23.
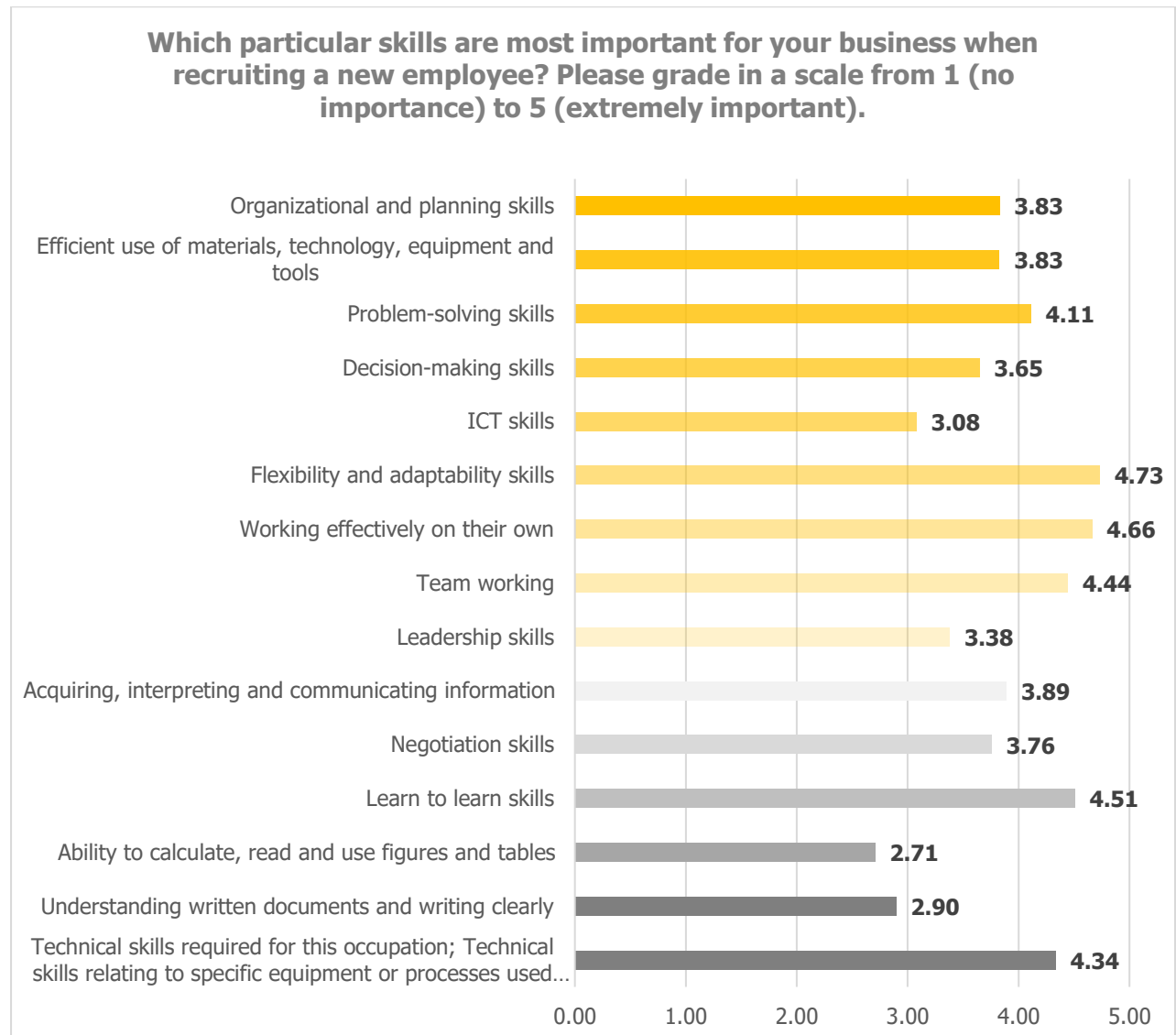
Figure 23. The most important particular skills for business when recruiting a new employee

Based on the results, on average the most important skills that companies take into consideration when recruiting a new employee are flexibility and adaptability skills (4.73 points out of 5), working effectively on their own (4.66 points out of 5) and learn to learn skills (4.51 points out of 5). The least importance for the companies have the skills of ability to calculate, read and use figures and tables (2.71 points out of 5) and understanding written documents and writing clearly (2.9 points out of 5). Skills, that

were counted as the least important are connected with the fact that most of the employees have the mentioned skills. The picture is clearer when looking on the next Figure.

After revealing the most important particular skills among the respondent companies, they were also asked about the existing skills gaps of their current employees. The skills gaps are presented below in the Figure 24.
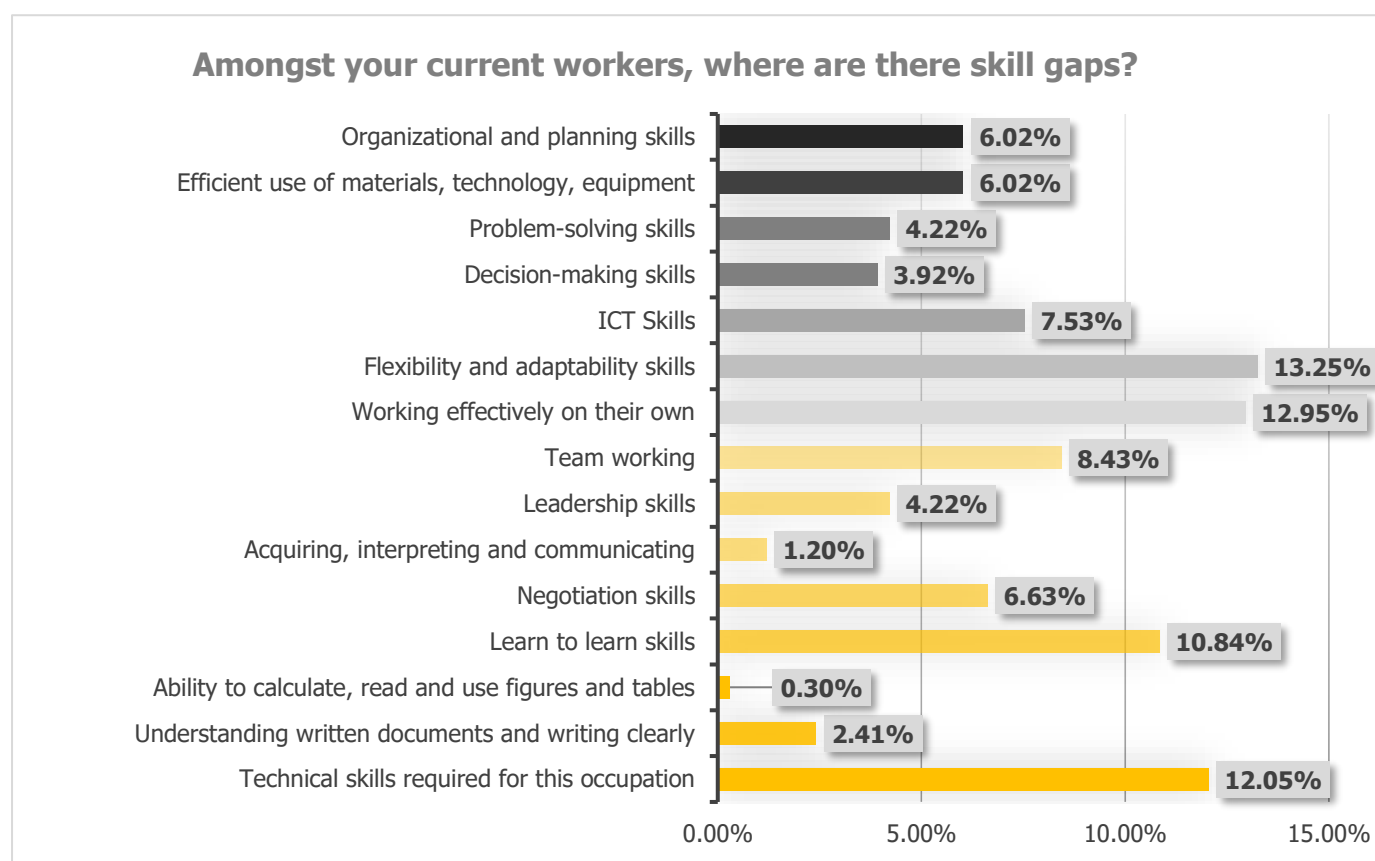
Figure 24. Skill gaps amongst the current workers.

The outcomes of the study indicate that the skill gaps mostly exist in the skills of working effectively on their own (13%), flexibility and adaptability skills (13%) and technical skills required for specific occupation (12%). There is almost no skills gap in ability to calculate, read and use figures and tables in 0.3% and acquiring, interpreting and communicating skills in 1.2% of employees.

More information on the importance and gaps of skills separated by sectors can be found on Annex 2.

After understanding the existing skills gaps among the employees, it is important to reveal the ways that companies use to overcome the skill gaps. Based on the survey, results are demonstrated below in the chart below.

WHAT IS BEING DONE TO OVERCOME THE PROBLEM OF SKILLS GAPS IN YOUR COMPANY?

Category	Value
No special measures have been taken	13.44%
Use State employment and training schemes	1.89%
Influence has been used on education (educational providers) in order to ensure the inflow	8.02%
Work location within the company has been changed	5.66%
Other strategies have been used to promote learning	16.27%
Further training has been provided	41.27%
Hiring has increased	13.44%

Figure 25. Ways of overcoming the problem of skill gaps in the companies.

As it can be seen from the figure above, companies mainly overcome the problem of skill gaps by providing further trainings (41.27%), using other strategies to promote learning (16.27%), increasing hiring (13.44%) and by taking no special measures (13.44%). Particularly, it is worth to mention that only 1.89% of the respondent companies have used State employment and training schemes.

More information on actions that are being done to overcome the problem of skills gaps in companies, separated by sectors can be found on Annex 2.

From total 1008 respondent companies 402 companies currently have free vacancies. During 12-month period, they are planning to have 2115 free vacancies, from which 39% need workers with post- secondary and 28% from university graduates and for 5% it is not important what educational background they have.

3.5. Workforce Development

In the frames of the survey, respondent companies were asked whether their employees had participated in any training during the past 12 months and corresponding results are presented below in the Figure 26.

During the past 12 months have your employees participated in any training courses organized within or outside of the company?

Yes, 26.84%

No, 73.16%

■ Yes ■ No
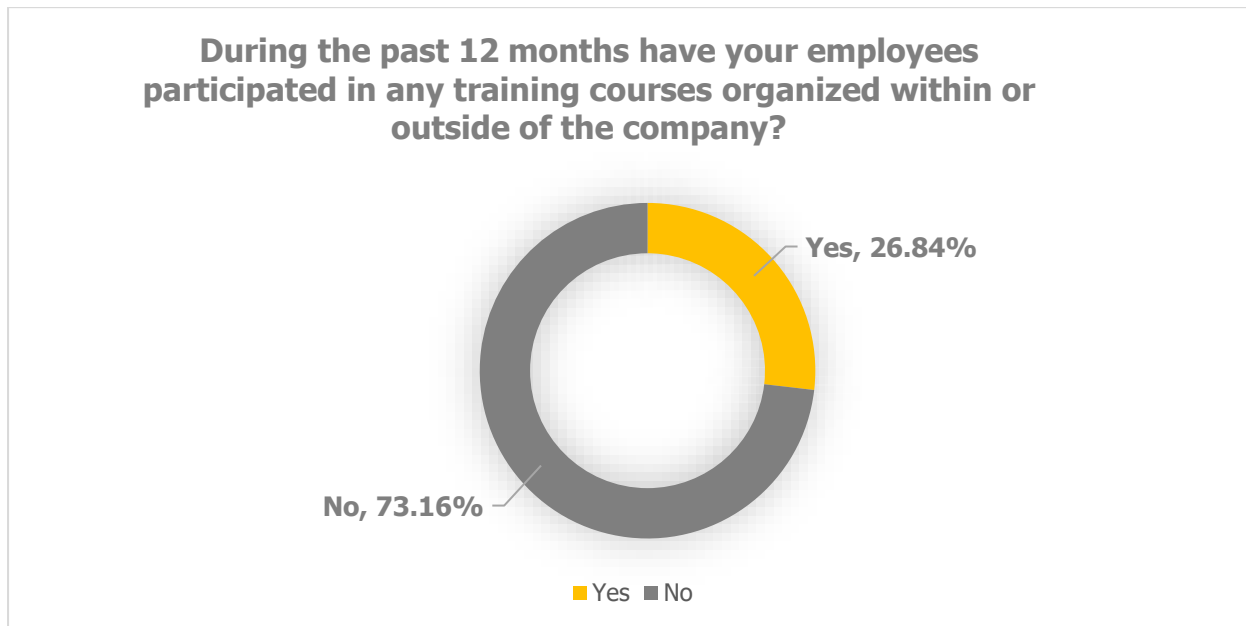
Figure 26. Employees' participation in any training courses organized within or outside of the company during the past 12 months.

According to the survey results, 26.84% of employees of the respondent companies have participated in any training courses organized within or outside of the company during the past 12 months. Furthermore, in addition, the majority 73.16% have not participated in any training course.

Figure 27 presents whether employees have participated in any training courses during the past 12 months. The data is disaggregated by sectors.

During the past 12 months have your employees participated in any training courses organized?

Sector	No	Yes
Production of construction materials	80%	20%
Construction	59%	41%
Alcoholic beverages	78%	22%
Business consulting, accounting & training	50%	50%
Service providers	30%	70%
Mining	55%	45%
Pharmaceutics	50%	50%
Chemical & cosmetic production	40%	60%
Computer techniques or computer servicing	40%	60%
Financial services & Insurance	47%	53%
Trade	81%	19%
Energy	47%	53%
Transport & logistics	75%	25%
Tourism & hospitality	34%	66%
Agriculture and food production	78%	22%
Industry, Metal processing	75%	25%

Figure 27. Disaggregation of employees' participation in any training courses organized within or outside of the company during the past 12 months by sectors

Survey results show that in the sector of service providers, 70% of the respondent companies' employees have participated in training courses during the past 12 months. In trade sector only 19% of the respondent companies' employees have participated in training courses during the past 12 months. Sectors, where employees have participated in training the most are tourism and hospitability, energy, financial services, insurance, pharmaceutics, business consulting, accounting & training.

The representatives of the companies which employees had participated in any professional training during the past 12 months, were asked about the occupations of the trained employees which is demonstrated in the below figure.
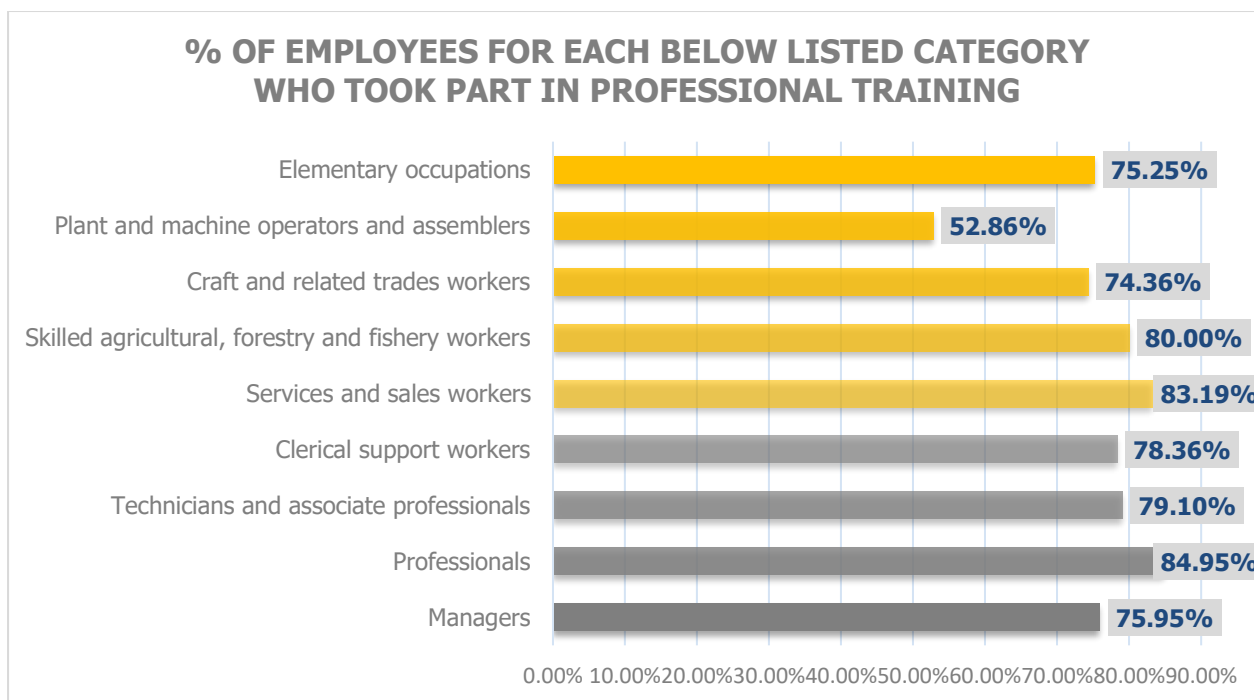
Figure 28. Percent of employees who took part in professional training.

The figure above demonstrates the percent of employees who participated in any professional training based on their occupation category. Specifically, according to the survey results, the employees who participated in professional trainings were mainly professionals (84.95%), services and sales workers (83.19%) and skilled agricultural, forestry, fishery workers (80.00%).

Figure 29 presents the areas of trainings that respondent companies have financed.

In which areas did your company finance the training?

Sector	Induction training	Occupational health and safety	Compliance with regulatory requirements	Foreign language	IT training	Management and administration	Training in new technology	Environmental protection	Accounting and finance	Other
Production of construction materials	0%	33%								67%
Construction		17%	50%				33%			
Alcoholic beverages			100%							
Business consulting, accounting & training			44%			22%	22%			11%
Service providers			100%							
Mining			67%				17%			17%
Pharmaceutics			50%			25%	25%			
Chemical & cosmetic production			25%	25%		25%			25%	
Computer techniques or computer servicing	52%			0% 15%	30%					4%
Financial services & Insurance	43%	14%	14%		14%	14%				
Trade			52%	3% 2%	19%		3% 4%			18%
Energy			71%		14%		14%			
Transport & logistics			33%		33%	33%				
Tourism & hospitality			71%	14%			5%	5%		5%
Agriculture and food production		10%	38%	5%	10%	19%	10%	5%		5%
Industry, Metal processing	1%		59%	3%	6%		14%	1%		14%

Figure 29. Directions of financed trainings separated by sectors

Based on the survey results, induction trainings in 52% were financed by Computer techniques or computer servicing sector among the respondent companies and in 43%

46

by financial services and insurance. The sector of construction among the respondent companies financed the trainings of occupational health and safety in 17%. The respondent companies in the sectors of service providers and alcoholic beverages financed the trainings of compliance with regulatory requirements, customer requirements or quality system requirements in 100%. The trainings of management and administration were financed in 33% by the respondent companies in the sector of transport and logistics. Training in new technology/ new product or service was financed in 33% by construction sector among the respondent companies. Environmental protection trainings were financed by 5% in the sectors of tourism and hospitality, agriculture and food protection. Chemical and cosmetic production trainings among the respondent companies were financed in 25%.

Another interesting question is to reveal the areas of trainings that were financed by the companies foe their employees. Results are presented below.

IN WHICH AREAS DID YOUR COMPANY FINANCE THE TRAINING?

Area	Percentage
Other	11.69%
Accounting and finance	3.69%
Environmental protection	1.23%
Training in new technology/new product or service	7.38%
Management and administration	11.08%
IT training	5.54%
Foreign language	3.38%
Compliance with regulatory requirements, customer requirements or quality system requirements	49.23%
Occupational health and safety	1.54%
Induction training	5.23%

Figure 30. Areas of trainings financed by companies.

Based on the results of the survey, almost half of the financed trainings (49.23%) were in the area of compliance with regulatory requirements, customer requirements

or quality system requirements. Meanwhile, survey results show that environmental protection trainings were financed in 1.23% among the respondent companies.

Figure 31 presents training providers for the respondents' employees in the past 12 months disaggregated by sectors.

Who delivered the majority of the trainings for your employees in the past 12 months?

Sector	Your company (other employees)	A public education institution (VET school, university)	A private sector training provider	Individual consultants	Chambers/employers organizations
Production of construction materials	67%		33%		
Construction	71%	29%			
Alcoholic beverages	83%			17%	
Business consulting, accounting & training	82%		18%		
Service providers	100%				
Mining	80%		20%		
Pharmaceutics	57%	14%	14%	14%	
Chemical & cosmetic production	80%	10%	10%		
Computer techniques or computer servicing	88%		13%		
Financial services & Insurance	100%				
Trade	90%	1%	7%	1%	1%
Energy	100%				
Transport & logistics	75%		25%		
Tourism & hospitality	100%				
Agriculture and food production	76%	5%	14%	5%	
Industry, Metal processing	80%	1%	13%	5%	

Figure 31. Training providers, separated by the sectors of companies

According to the survey results, in the sectors of service providers and financial service & insurance, the company/ other employees of the company had delivered trainings for employees in 100%. In 29% of the respondent companies in the construction sector, the trainings were delivered by a public education institution (TVET school, university). A private sector training providers delivered 33% of the trainings in the production of construction materials. Individual consultants delivered 14% of the trainings for the employees of respondent pharmaceutical companies. 17% of the trainings for employees in respondent alcoholic beverages companies were delivered by chambers/ employers organizations.

The companies which employees had participated in professional trainings during the past 12 months (26.84% of all respondents), were asked about the preferences on age distribution of managers, professionals, administrative staff, while choosing a staff for training. The results are demonstrated below in the Figure 32.
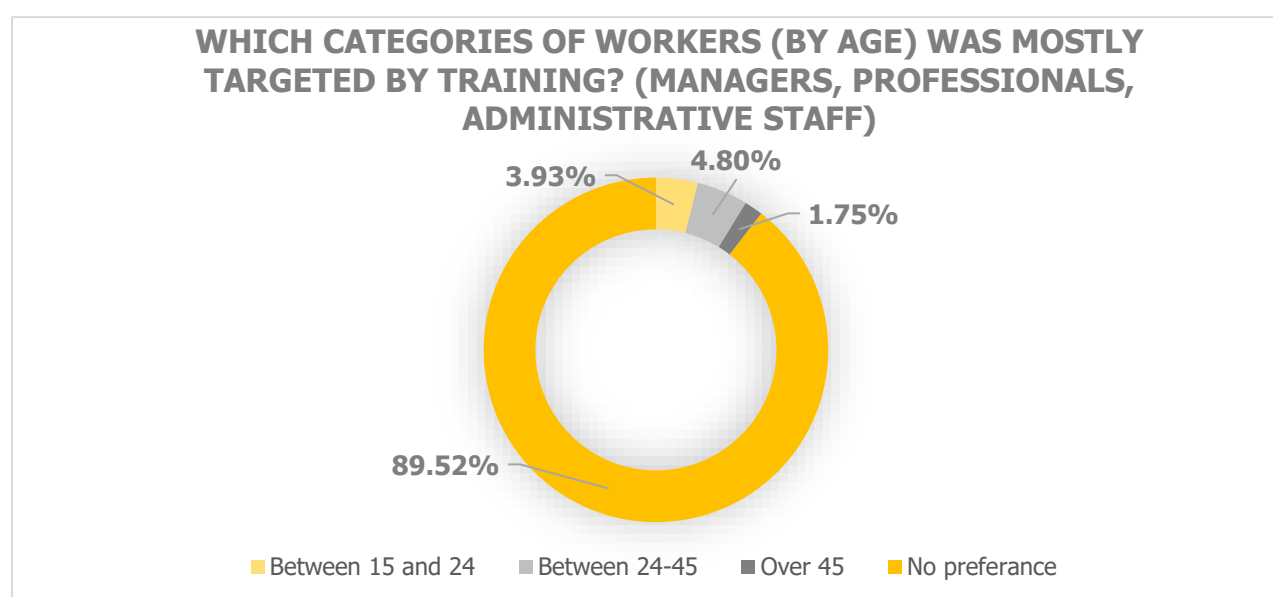
Figure 32. The age distribution of managers, professionals, administrative staff, targeted by companies for training.

According to the survey, by 89.52% there is no preference of age regarding to managers, professionals, and administrative staff training participation. Nevertheless, 3.93% of the respondent companies stated that they had targeted the ages between 15 to 24, 4.8% had targeted between the age of 24 – 45 and 1.75% had targeted the age of over 45.

Afterwards, accordingly the companies which plant and machine operators, elementary occupations employees had participated in professional trainings during the past 12 months (26.84%), were asked about the age distribution of plant and machine operators, elementary occupations employees. The results are presented below in the Figure 33.
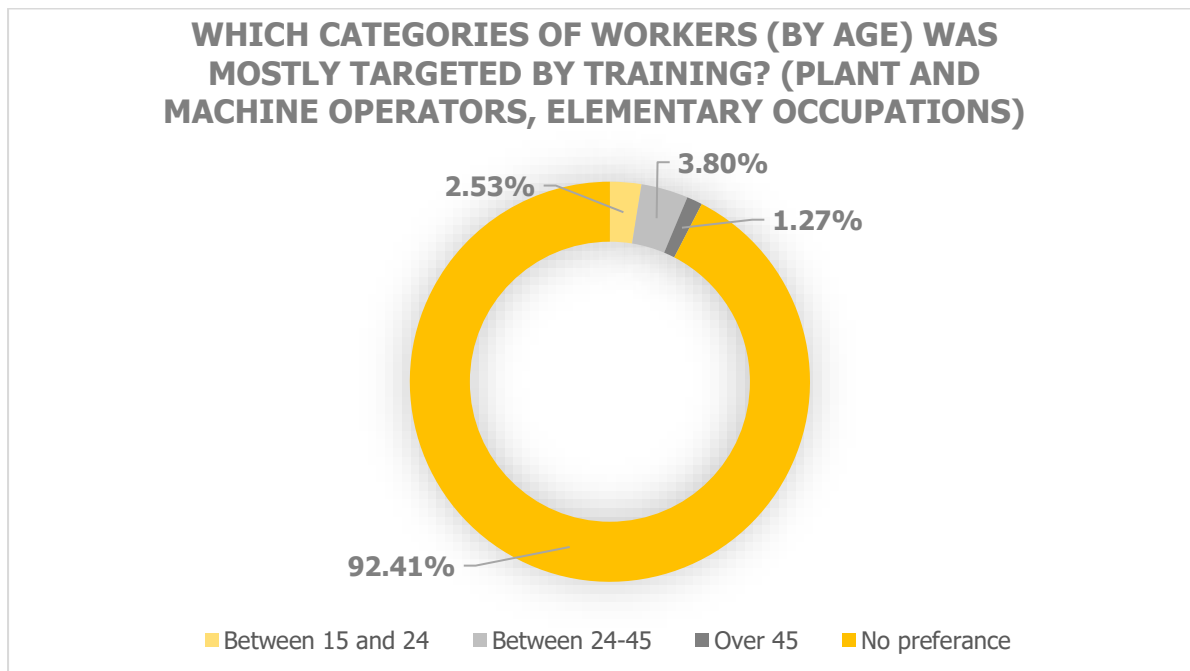
Figure 33. The age distribution of plant and machine operators, elementary occupations employees, targeted by companies for training.

According to the survey, by 92.41% there is no preference of age regarding to plant and machine operators, elementary occupations employees' training participation. Nevertheless, 2.53% of the respondent companies stated that they had targeted between the age of 15 and 24, 3.8% had targeted between the age of 24 – 45 and 1.27% had targeted the age of over 45.

Another factor that the companies which employees had participated in professional trainings during the past 12 months (26.84%), were asked about the gender distribution preference of managers, professionals, administrative staff, which results are presented below.

WHICH CATEGORIES OF WORKERS (BY GENDER) WAS MOSTLY TARGETED BY TRAINING? (MANAGERS, PROFESSIONALS, ADMINISTRATIVE STAFF)

5.22%

3.91%

90.87%

■ Female ■ Male ■ No preference
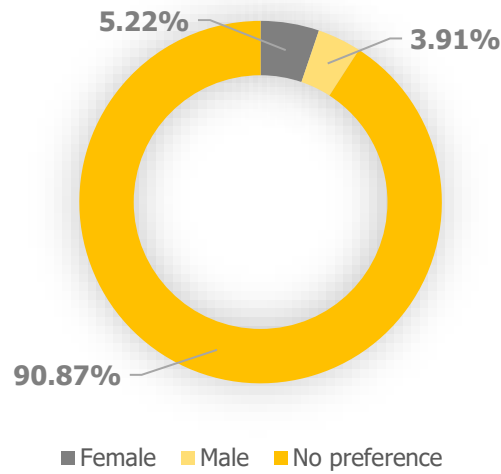
Figure 34. The gender distribution of managers, professionals, administrative staff gender targeted by companies for training.

The survey results show that by 90.87% there is no preference of gender regarding to managers, professionals, administrative staff training participation. Meanwhile, 5.22% of the respondent companies stated that they had targeted female employees and 3.91% had targeted male employees.

Afterwards, accordingly, the companies which plant and machine operators, elementary occupations employees had participated in professional trainings during the past 12 months (26.84%), were asked about the gender distribution of plant and machine operators, elementary occupations employees. The results are presented below in the Figure 35.

Figure 35. The gender distribution of plant and machine operators, elementary occupations employees, targeted by companies for training.

According to the survey results, by 92.5% there is no preference of gender regarding to plant and machine operators, elementary occupations employees' training participation. Meanwhile, 2.5% of the respondent companies stated that they had targeted female employees and 5.0% had targeted male employees.

Additionally, the other factor that could be targeted as a preference factor by companies when choosing staff for training, is the level of education of a certain employee in the categories of managers, professionals, administrative staff.

WHICH CATEGORIES OF WORKERS (BY EDUCATIONAL
LEVEL) WAS MOSTLY TARGETED BY TRAINING?
(MANAGERS, PROFESSIONALS, ADMINISTRATIVE STAFF)

1.2%   16.3%

0.6%

1.2%

80.8%

■ General secondary

■ Vocational education

■ Post-secondary

■ University - graduate

■ University - post-graduate
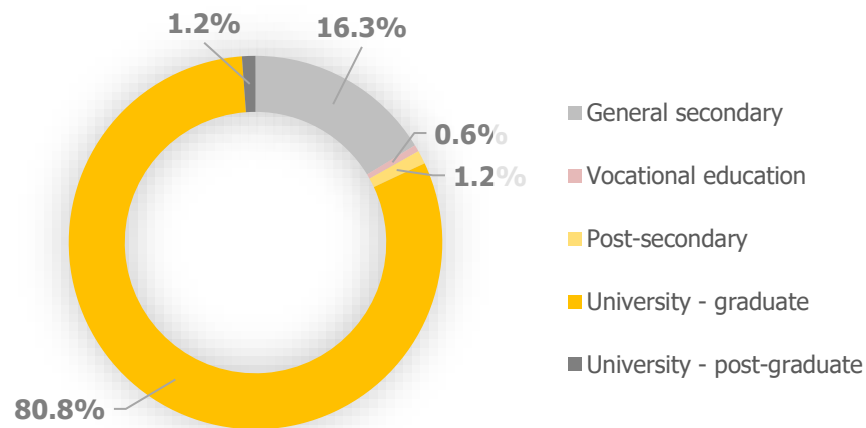
Figure 36. The distribution of preference on education factor, when choosing staff for training participation.

Based on the results of the survey, by 80.8% the respondent companies targeted managers, professionals, administrative staff with university graduates. Managers, professionals, administrative staff as of university post-graduates, the employees with general secondary education, with vocational education and post-secondary education were targeted in comparatively smaller shares, accordingly, by 1.2%, 16.3%, 0.6% and 1.2%.

Furthermore, the companies which plant and machine operators, elementary occupations employees had participated in professional trainings during the past 12 months (26.84%), were asked about the distribution of education of plant and machine operators, elementary occupations employees. The results are presented below.

WHICH CATEGORIES OF WORKERS (EDUCATIONAL LEVEL)
WAS MOSTLY TARGETED BY TRAINING? (PLANT AND
MACHINE OPERATORS, ELEMENTARY OCCUPATIONS)

1.69%
13.56%
3.39%
3.39%
77.97%

- General secondary
- Vocational education
- Post-secondary
- University - graduate
- University - post-graduate
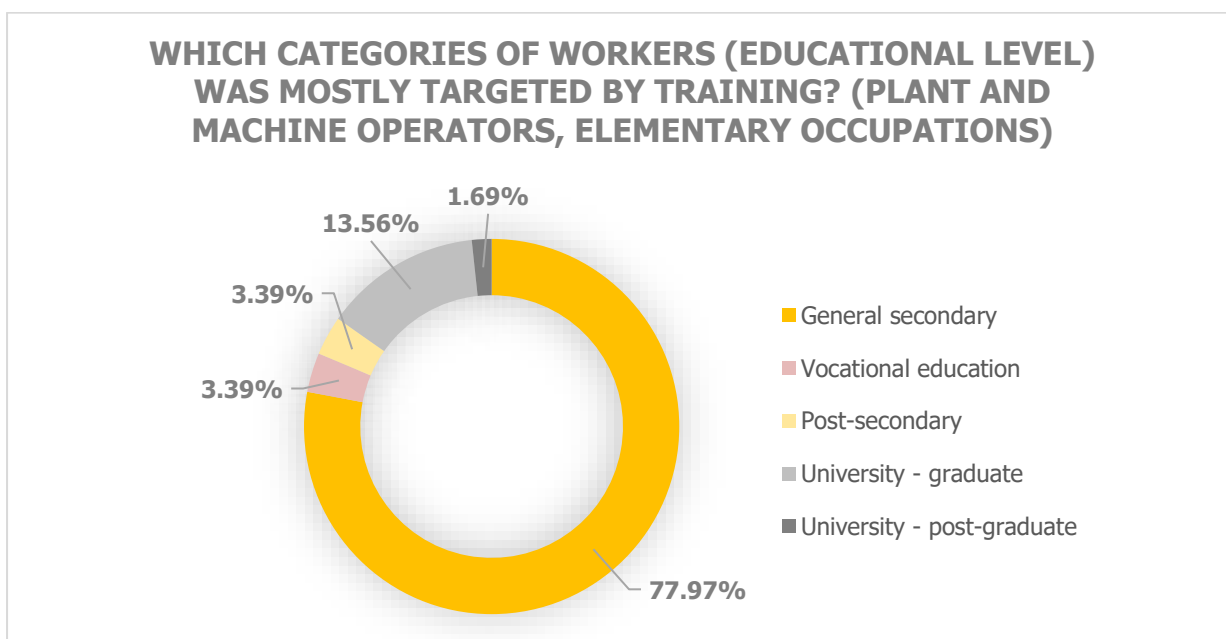
*Figure 37. The distribution of plant and machine operators, elementary occupations employees'
education level targeted for training.*

According to the survey results, by 77.97% the respondent companies targeted plant and machine operators, elementary occupations employees with general secondary education. Plant and machine operators, elementary occupations employees with vocational education, post-secondary education, university graduates and university post-graduates were targeted in comparatively smaller shares, accordingly, by 3.39%, 3.39%, 13.56% and 1.69%.

Furthermore, it is worth to reveal who delivered the trainings within the companies which employees had participated in professional trainings during the past 12 months. Results are given in the figure below:

WHO DELIVERED THE MAJORITY OF THE TRAININGS FOR YOUR EMPLOYEES IN THE PAST 12 MONTHS?

2.18%   0.62%
9.66%
2.18%
85.36%

- Your company (other employees)
- A public education institution (VET school, university)
- A private sector training provider
- Individual consultants
- Chambers/employers organizations
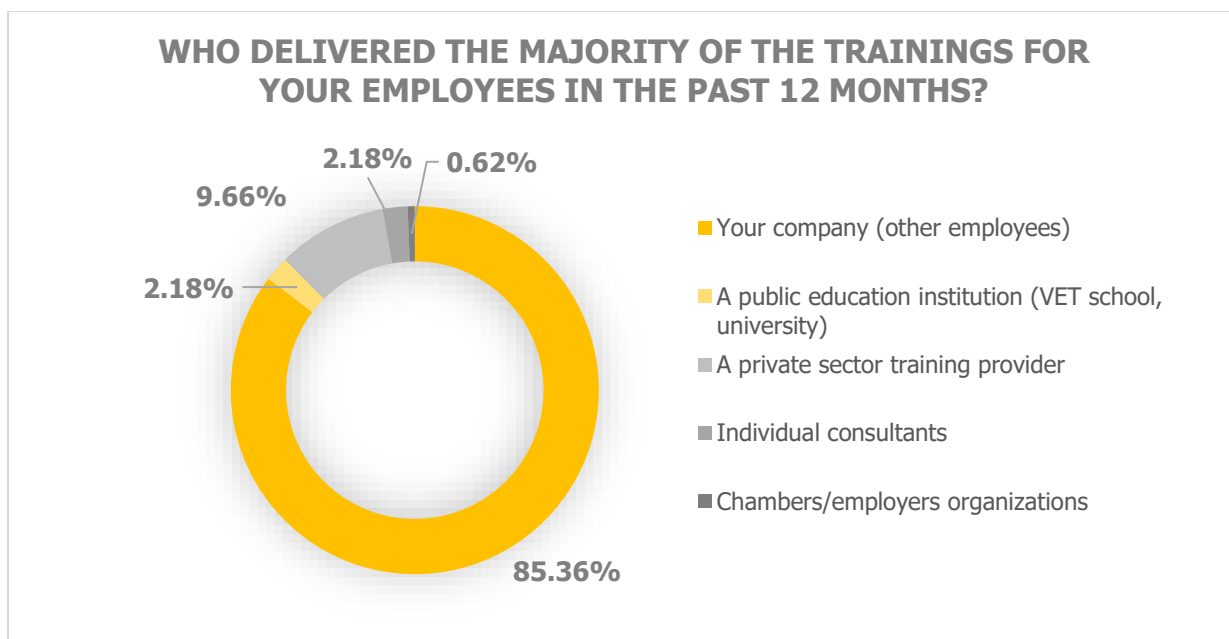
Figure 38. Training providers for respondents' employees in the past 12 months.

The results of the survey among the respondent companies show that by 85.36% the company/ other employees of the company had delivered the trainings for targeted employees. Nevertheless, a part of respondent companies stated that the training had been conducted 9.66% by private sector training providers, 2.18% by public education institutions, 2.18% by individual consultants and 0.62% by chambers/employers organizations.

In particular, Figure 39 presents the reasons for not planning to provide trainings in the next 12 months disaggregated by sectors.

Are you planning to provide training for your employees in the next 12 months? If not, what is the reason for it?

Sector	Lack of time for training	Financial constraints	Available courses are not relevant for our company	There is a lack of information about the available courses	The quality/standard of the available courses is not satisfa	No need
Production of construction materials	25%	13%	63%			
Construction	10%	40%	50%			
Alcoholic beverages	6%	35%	59%			
Business consulting, accounting & training	17%	8%	50%	17%	8%	
Service providers	14%	43%	29%	14%		
Mining	29%	14%	57%			
Pharmaceutics	33%		33%	33%		
Chemical & cosmetic production	20%	40%	20%	20%		
Computer techniques or computer servicing	50%		50%			
Financial services & Insurance	10%	40%		40%	10%	
Trade	22%	43%	21%	10%	2%	2%
Energy	30%		60%	10%		
Transport & logistics	17%	33%	42%	8%		
Tourism & hospitality	13%	81%			6%	
Agriculture and food production	21%	41%	31%	5%		3%
Industry, Metal processing	16%	38%	41%	4%	1%	

Figure 39. Reasons for not planning to provide trainings in the next 12 months disaggregated by sectors

According to the survey results, the main reason for the respondent companies in the sectors of Industry, Metal processing (41%); Transport & logistics (42%); Energy (60%); Mining (57%); Business consulting, accounting & training (50%); Alcoholic beverages (59%); Construction (50%); Production of construction materials (63%) is

that there are not available courses relevant for their company. For the sector of Agriculture and food production (41%); Tourism & hospitality (81%); Trade (43%); Chemical & cosmetic production (40%); Service providers (43%) the main reason for not planning to provide trainings is financial constraints. The representatives of financial services and insurance sector stated the main reasons are the absence of courses relevant for their company (40%) and lack of information about the available courses (40%). The respondent companies in Computer techniques or computer servicing sector mentioned that main reasons are lack of time for training (50%) and absence of available courses relevant for their company (50%). The respondent pharmaceutical companies indicated the main reasons as of lack of time for training (33%), and absence of available courses relevant for their company (33%) and lack of information about the available courses (33%).

Furthermore, it is worth to know the percent of companies that plan to provide training for employees in the next 12 months.

ARE YOU PLANNING TO PROVIDE TRAINING FOR YOUR EMPLOYEES IN THE NEXT 12 MONTHS?

16.39%

83.61%

■ Yes ■ No

Figure 40. The percent of companies planning to provide training for employees in the next 12 months.

Based on the results of the survey, just 16.31% of the respondent companies plans to provide trainings for the employees in the next 12 months. 24% of the respondent companies that plan to provide trainings in the next 12 months (16.39%) mentioned that they need to provide trainings for sales managers to develop the skills of sales,

communication, technical, foreign languages, working effectively on their own, learn to learn, etc. 9% of the positively responded companies mentioned that they need to provide trainings for designers to enhance the skills of learn to learn, technical, working effectively on their own. Other 9% of the respondent companies that plan to provide trainings mentioned that they need to provide trainings for masters to develop the skills of efficient use of materials, technical, team working, etc. 8% of the respondent companies that plan to provide trainings in the next 12 months targeted managers to enhance the skills of leadership, organizational and planning. The remaining part of the respondent companies planning to provide trainings in the next 12 months depending on the sphere, need to provide trainings for financial specialists, developers, directors, accountants, electricians, chemists, engineers, florists and others to develop the skills of technical, flexibility and adaptability, organizational and planning, team working, efficient use of materials, learn to learn, foreign languages, etc.

ARE YOU PLANNING TO PROVIDE TRAINING FOR YOUR EMPLOYEES IN THE NEXT 12 MONTHS? IF NOT, WHAT IS THE REASON FOR IT?

1.67% 1.06%
7.8... 19.12%
31.26%
39.00%

- Lack of time for training
- Financial constraints
- Available courses are not relevant for our company
- There is a lack of information about the available courses
- The quality/standard of the available courses is not satisfactory
- No need

Figure 41. Reasons for not planning to provide trainings.

As it is demonstrated in the pie chart 20, 83.61% of the respondent companies do not plan to provide trainings for the employees in the next 12 months. The reason for not planning such activities is by 39% due to financial constraints, by 31.26% due to the point that there is no available courses relevant for their company. Only 1.06% the

respondent companies stated that there is no need to provide trainings and in 1.67% they mentioned that the quality/ standard of the available courses is not satisfactory.

The figure below demonstrates the main factors that companies take into consideration when choosing corresponding trainings for their employees:
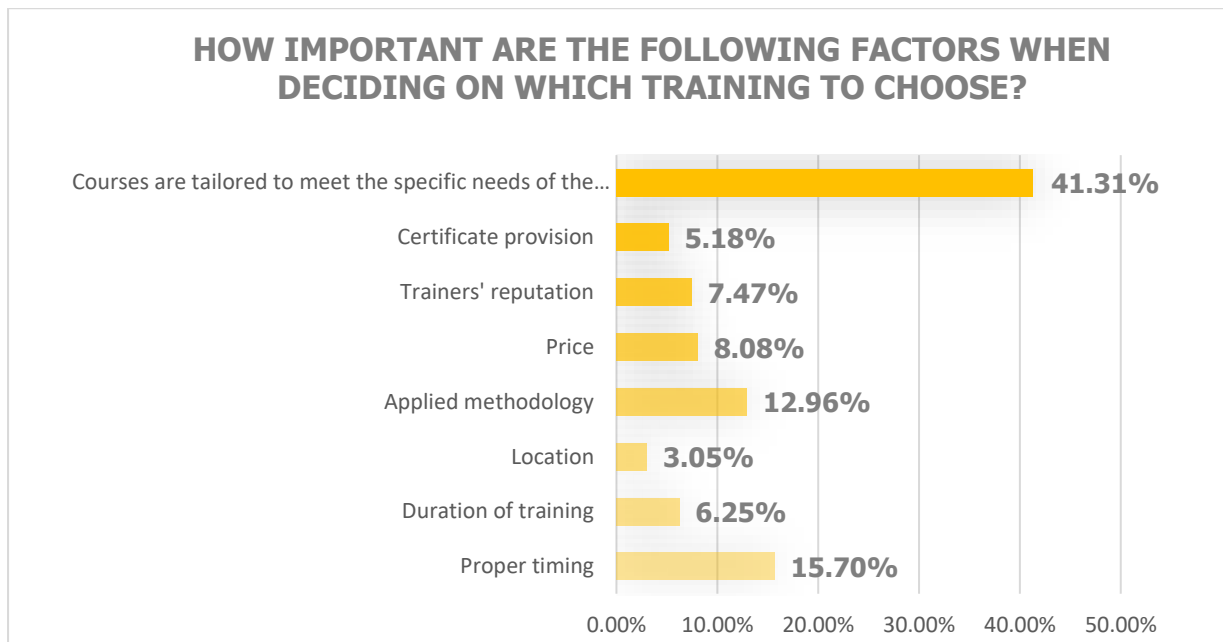
Figure 42. The importance of factors when deciding on which training to choose.

According to the survey results, the most important factors for the respondent companies when deciding on which training to choose for their employees are considered the points of courses tailored to meet the specific need of the company (41.31%), proper timing (15.7%) and applied methodology (12.96%). Price, location and duration are considered as important, accordingly, 8.08%, 3.05% and 6.25%.

Figure 43 presents the importance of the factors when deciding on which training to choose.

How important are the following factors when deciding on which training to choose?

Sector	Proper timing	Duration of training	Location	Applied methodology	Price	Trainers' reputation	Certificate provision	Courses are tailored to meet the specific needs of the company
Production of construction materials					40%			60%
Construction	19%	19%		19%	19%			24%
Alcoholic beverages	13%			50%				38%
Business consulting, accounting & training	11%	5%		16%			5%	63%
Service providers	26%	9%	4%	9%	17%		13%	9% / 13%
Mining	23%	8%	8%	8%	8%	8%	15%	23%
Pharmaceutics	31%			23%			8%	38%
Chemical & cosmetic production	8%	8%		33%				50%
Computer techniques or computer servicing	20%	13%		20%		20%		27%
Financial services & Insurance	13%	13%	6%	19%		19%		31%
Trade	15%	6%	2%	11%	9%	8%	3%	49%
Energy	27%	9%		9%				55%
Transport & logistics	32%	11%		5%				53%
Tourism & hospitality	18%	7%	7%	7%	5%	5%	9%	40%
Agriculture and food production	20%	6%	2%	12%	12%	12%	6%	29%
Industry, Metal processing	10%	6%	5%	15%	8%	6%	8%	41%

- Proper timing
- Duration of training
- Location
- Applied methodology
- Price
- Trainers' reputation
- Certificate provision
- Courses are tailored to meet the specific needs of the company

Figure 43. The importance of the factors when deciding on which training to choose disaggregated by company sectors.

As it can be seen from the Figure 43, the main factor when deciding on which training to choose for almost all the sectors is courses that should be tailored to meet specific needs of the company. Meanwhile, for the sector of alcoholic beverages the main

factor is applied methodology (50%), for service providers it is proper timing (26%) and for the mining sector despite tailored courses (23%), proper timing (23%) is important as well.

Afterwards, in the scope of the survey the most suitable time for trainings is revealed and is presented below in the Figure 44.
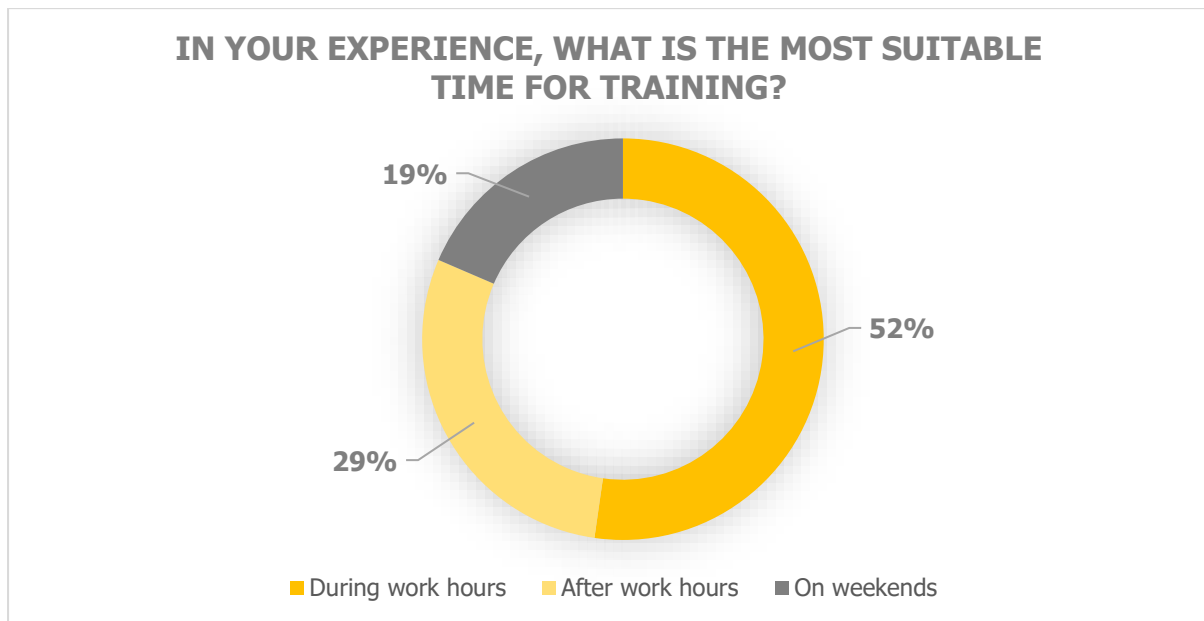
Figure 44. The most suitable time for training according to the companies.

Based on the results of the survey, for 52% of the respondents the most suitable time for training is during work hours. Meanwhile, 29% and 19% of the respondent companies mentioned that after work hours and weekends and are more suitable.

The figure presented below shows the responsible person/ department for human resource development among the respondent companies.

WHO IN THE COMPANY IS RESPONSIBLE FOR HUMAN RESOURCES DEVELOPMENT?

11.90% 0.30%

87.80%

Director   Department or responsible HR person   NA
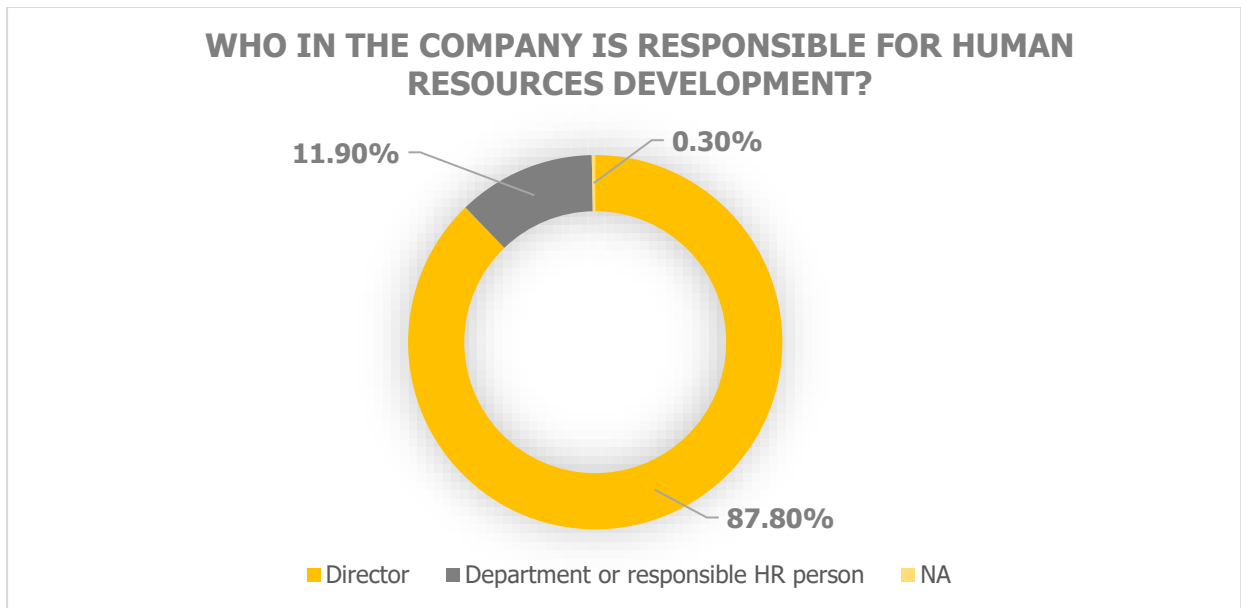
Figure 45. Responsible person/ department for human resource development.

Director is responsible for human resource development in 87.80% among the interviewed companies. Department or HR person is responsible for human resource development only in 11.90%. As of the remaining 0.3%, the information is not available.

Another point that is revealed within the survey, is the existence of an annual budget in the company reserved for training activities. Results are presented below in the Figure 46.

IS THERE AN ANNUAL BUDGET IN THE COMPANY RESERVED FOR TRAINING ACTIVITIES?

8.31%

91.69%

Yes   No
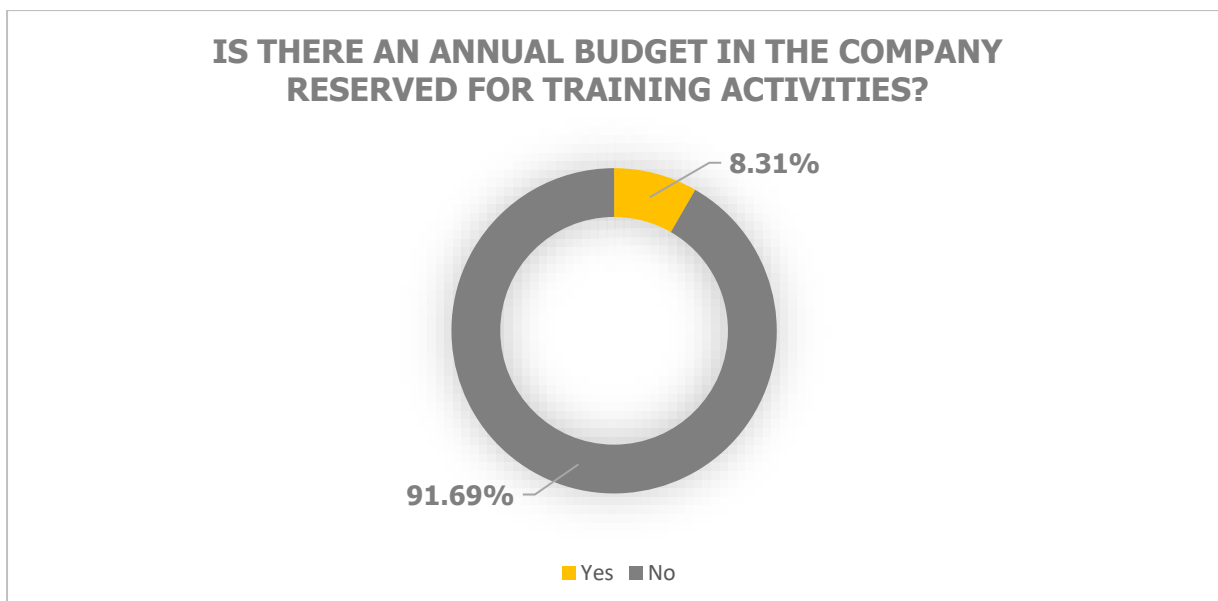
Figure 46. The existence of an annual budget in the company reserved for training activities.

The 91.69% of the respondent companies do not have annual budget in the company reserved for training activities and only 8.31% of them mentioned they have annual budget for training activities.

During the past 12 months have your employees participated in any training courses organized by company (depending on size).

	Large	Medium	Small	Micro
Yes	50%	44%	39%	16%
No	50%	56%	61%	84%

Table 17. Past 12-month trainings

The larger the company the more training courses provided to employees.

Are you planning to provide trainings to your employees for upcoming 12 months?

	Large	Medium	Small	Micro
Yes	31%	24%	23%	11%
No	69%	76%	77%	89%

Table 18. Upcoming 12-month trainings

For the past years trainings rate were higher, then the planning for upcoming 12 months. The tables 17 and 18 indicate that during last year the rate for trainings were high and for upcoming years, the rates have no the tendency of increase. The gap is clarified by the results gained from the table below.

Table 19 presents the main reasons for not planning to provide trainings demonstrated by company size.

	Large	Medium	Small	Micro
Lack of time for training	42%	24%	14%	18%
Financial constraints	10%	24%	32%	47%
Available courses are not relevant for our company	39%	29%	43%	27%
There is a lack of information about the available courses	10%	18%	10%	5%
The quality/standard of the available courses is not satisfy	0%	3%	1%	2%
No need	0%	2%	0%	1%

Table 19. The reason of not planning to provide trainings by company size.

The analysis shows the following points:

§ Micro companies do not provide trainings because of financial constraints. (47%)

§ Large companies do not provide mainly because of the lack of time. (42%)

§ Medium companies responded that available courses are not relevant for them. (29%)

3.6. Demand For Workforce

The right person with the right qualifications in the organization is the guarantee of progress.

Table 20 presents the employers that plan to shorten the staff or hire new ones for upcoming 12 months distributed by the level of probability.

Are you planning to reduce staff or hire new employees in the coming 12 months?							
Occupation/hiring new employers	Reduce the number of workers	No hiring	Low probability	Medium Probability	High probability	Very high probability	Vacancies now
Managers	-	44%	2%	10%	19%	8%	17%
Professionals	-	3%	1%	24%	28%	6%	38%
Technicians and associate professionals	-	10%	7%	20%	37%	-	27%
Clerical support workers	-	4%	-	38%	33%	8%	17%
Services and sales workers	-	-	1%	22%	32%	11%	35%
Skilled agricultural, forestry and fishery workers	-	-	-	-	-	50%	50%
Craft and related trades workers	-	2%	-	22%	24%	13%	39%
Plant and machine operators and assemblers	-	-	-	13%	13%	13%	60%
Elementary occupations	1%	-	1%	13%	11%	17%	57%

Table 20. Staff workflow for 12 month-period.

The results show that for upcoming 12 months the companies that participated in the survey, were not planning to shorten the number of staff within the company. Meanwhile, the survey respondent companies answered that no staff reduction is planned within the company, besides elementary occupations of 1%.

The highest percent (60%) of hiring new staff is in *plant and machine operators* segment. The demand to hire people with *elementary occupation* is 57%. In *managerial* positions for hiring new employees, the rate is 44%. The *craft and related trade* sector demand for new workers is also high (39%), this can be a result of having high sampling size of trade segment participants in surveying process. The main reason for hiring new staff based on occupation can differ based on company needs. The next table presents the main reason for increasing the number of employees by occupations.

What would be the main reason for increase the number of employees by occupations?				
Occupations	Expansion of production	Changes in technology	Outsourcing	Other reasons
Managers	75%	0%	3%	22%
Professionals	48%	5%	1%	46%
Technicians and associate professionals	44%	30%	0%	26%
Clerical support workers	42%	21%	0%	37%
Services and sales workers	57%	3%	0%	40%
Skilled agricultural, forestry and fishery workers	50%	0%	17%	33%
Craft and related trades workers	80%	2%	0%	18%
Plant and machine operators and assemblers	57%	21%	0%	21%
Elementary occupations	63%	2%	1%	34%

Table 21. Reasons of staff workflow (increase) for 12 month-period

Table 21 shows that the reason for increasing the number of employees in craft and related segment (80%) and in managerial (75%) positions is the expansion of production in the company. 30% of the technicians and associate professionals, 21% of plant and machine operators and assemblers are being hired because of changes in technology.

3.7. Covid-19 Influence

Social distancing, distance learning and remote working has become normal in many parts of the world according to Covid-19 pandemic. It also had its negative impact on some industrial sectors. So this survey also helped to determine how to overcome the impact of pandemic on labor force and skill.
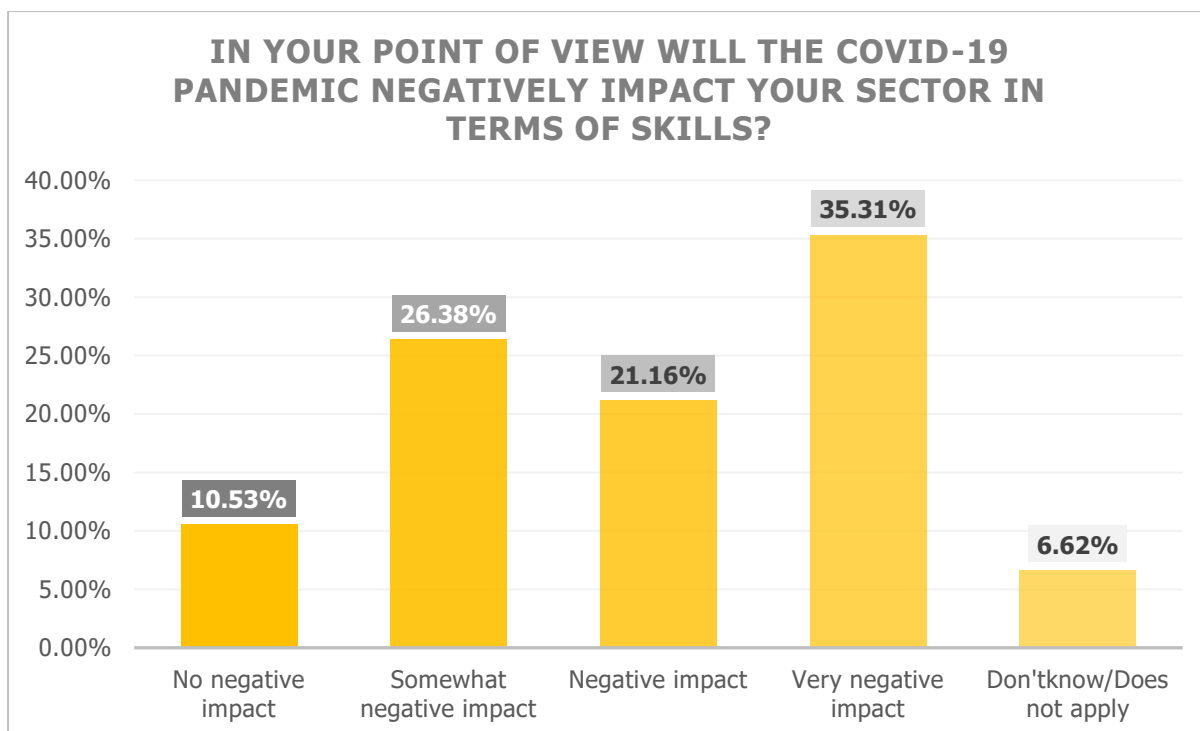
Figure 47. Covid-19 impact on companies

The companies, who participated in the surveying process, think that Covid-19 has very negative impact on 35,31% of them in terms of skills. 26,38% of the respondent companies think that it had somehow affected on companies activities. 21,16% think that it had negative impact on them. And only 10,53% of the respondent companies think that no negative impact was indicated in terms of skills as a result of Covid-19.

Another question that respondent companies were asked refers to the actions that education institutions should take in order to help the companies overcome the labor force and skills problems as an impact of COVID-19 pandemic.

Respondents think that some trainings must be performed which will help to overcome pandemic consequences or several online courses must be added to educational institutions' mandatory program, which will help the companies to overcome pandemic with more skilled employees.
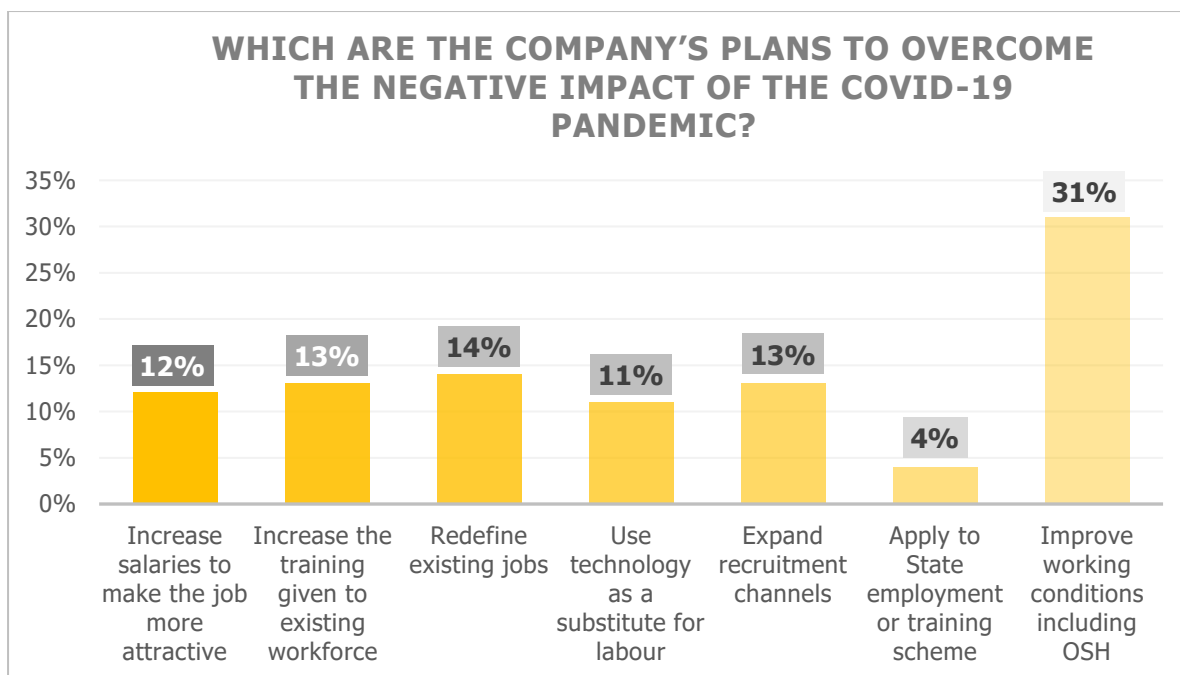
Figure 48. Plans of overcoming negative impact of Covid-19 pandemic

31% of the respondent companies plan to overcome pandemic by improving working conditions including Occupational Safety and Health. 14% of the companies are planning to redefine existing jobs, 13% think that expanding recruitment channels and increase of the number of trainings to strengthen the existing workforce will be useful.

The next question was addressed to companies to understand whether they need OSH as mandatory position for overcoming pandemic.
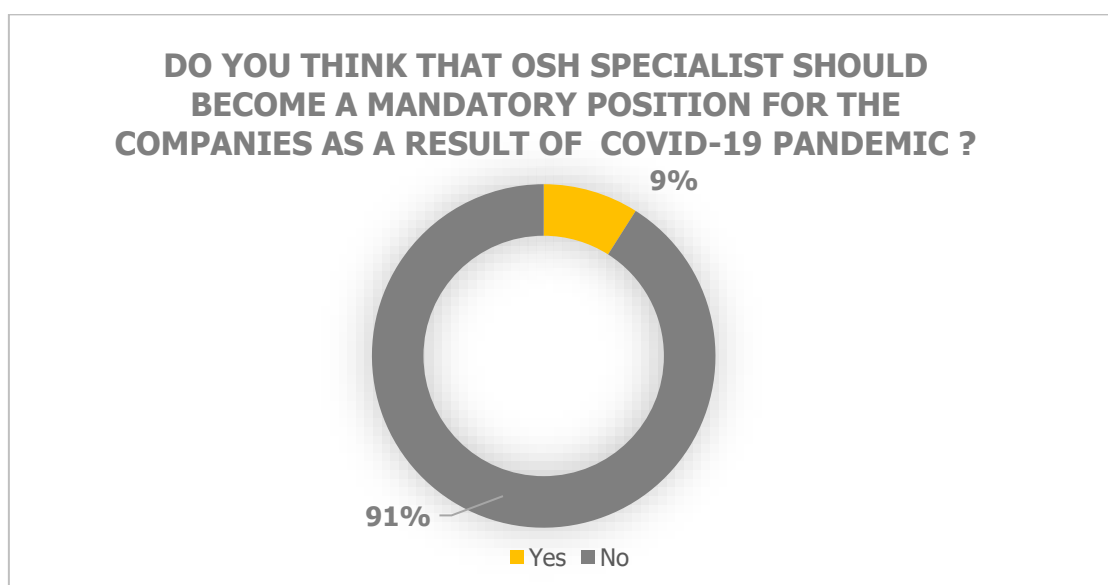
Figure 49. Necessity of OSH specialist

The 91% of the companies participating to the survey think that OSH specialist should not become a mandatory position because of pandemic. Those who had given negative answer mentioned, "It is an additional cost for the company to have a separate specialist for the company."

> * There is really no need for additional costs in order to separate that position.
> * Every staff of the company should be responsible themselves.
> * Director of the company must be responsible for it.
>
> **Comments from some respondents**

The last question of the survey was addressed to clarify if the companies are going to perform some activities for retraining the staff.
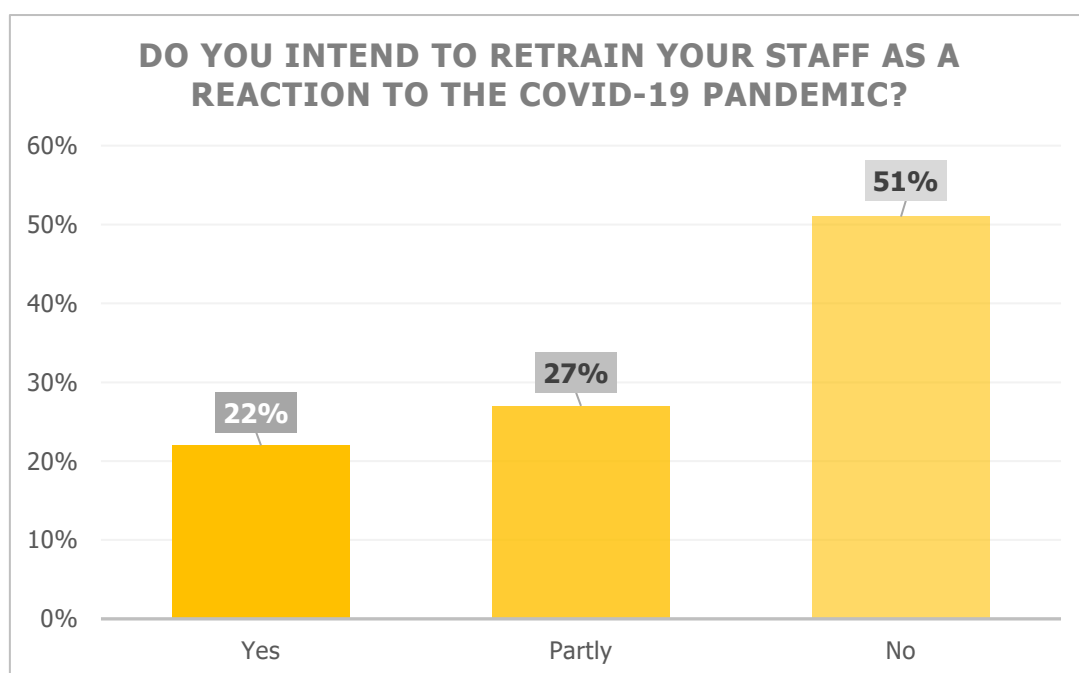
Figure 50. Staff rerating after pandemic

51% of the respondents think that they don't need to retrain staff after pandemic. 27% think that they partly need training and 22% of the respondent companies think that the employees must be retrained.

4. CONCLUSIONS

Based on the analysis of the collected information the survey team has made certain conclusions:

1. From total 1008 respondent companies 402 companies currently have free vacancies. During 12-month period, they are planning to have 2115 free vacancies, from which 39% need workers with post- secondary and 28% from university graduates and for 5% it is not important what educational background they have.

2. The sales of the products or services of the surveying companies were mainly distributed locally (86.7%), within a certain town or local area.

3. The results indicated that employees within the respondent companies mainly have general secondary and university graduate degree and according to their occupation, the employees were mainly from professional sphere or services, sales workers.

4. 98% of the respondents were not familiar with the Armenian national educational and training policy and the majority of them indicated that the education and training policy developed by national authorities are not supportive to their businesses. They also indicated that they are not aware of any recent improvements or reforms of the systems. Only few of them were involved in this system as guest lectures or by participating in researches.

   The remaining 2% of respondents could be a result of distribution of 1008 companies. Only a few Armenian companies are included in the board members of national institutions but our surveying companies were not selective, so this can be one of the reasons for such results.

   The respondents were not always the director or owner, so this also can be a reason for not having sufficient information about National Educational polices.

5. 50% of the respondent companies indicated main shortcomings come from the development of policies, programs and most of them are not aware of about the existing programs.

6. 40% of the companies from total responders are expecting to have new job vacancies for the upcoming 12 months and the main open vacancies are clerical and managerial positions.

7. The majority of respondents were not familiar with Armenian national educational and training system policy.

8. Survey analysis shows that there are several factors affecting recruitment and some solutions must be performed to overcome the hiring process difficulties and make hiring more efficient.

9. Actual business growth and business forecasting are the most important reasons when recruiting new employees.

10. Online recruitment has quickly became the preferred way of finding new employees. Posting new vacancy opportunities online or via social media platforms gives an opportunity to reach a large audience.

11. In 77.3% of companies, there are no vacancies available. Only 20.2% of them have from 1 to 5 open vacancy.

12. The demand in surveyed companies is high for the accountants, administrators and engineers with graduate degree, managers and SMM, Marketing specialists with university graduate degree and cleaners with secondary educational level.

13. Many vacancies exist on the sectors of industry, metal processing, welding, etc.

14. Most important reasons that make vacancies hard to fill are considered the lack of applicants experience for sales managers, poor attitudes, skills for managerial positions.

15. Respondents mentioned that engineers mostly have poor education level and this makes the vacancy hard-to fill one. People who apply for managerial positions have poor attitudes, motivation, skills. For marketing specialist working conditions are mostly not attractive and there is a lack of career prospects.

16. The results show that only 33,5% of companies hire graduates from school, technical and vocational institutions or universities.

17. Most of the companies find graduates from higher educational establishments prepared or well-prepared for work.

18. The larger the company more funding directed to recruitment channels. HR department's role is also indicating that large companies have this department for

hiring the best employees (66% of large companies have HR department or responsible HR person). However, at the same time analysis show that small companies are not directing funds for employee career development.

19. Almost half of respondents finds TVET graduates were well prepared for work. On the other hand, most of respondents were rather satisfied with them in the terms of the skills they possess. Only 5% of interviewed companies were very satisfied.

20. Technical, communication skills, team working, flexibility and adaptability, self-motivation, readiness to learn, organizational skills expected from respondents as important skills for TVET and university graduates.

21. Based on the results, on average the most important skills that companies take into consideration when recruiting a new employee are flexibility and adaptability skills, working effectively on their own and ability to learn.

22. Skills, that were considered as the least important when recruiting, are connected with the fact that most of the employees already have that skills, such as the ability to calculate, read and use figures and tables, understanding written documents and writing clearly.

23. The outcomes of the study indicate that the skill gaps amongst companies' employees mostly exist in the skills of working effectively on their own, flexibility and adaptability skills and technical skills required for specific occupation. There is almost no skills gap in ability to calculate, read and use figures and tables and acquiring, interpreting and communicating skills of employees.

24. Companies mainly overcome the problem of skill gaps by providing further trainings, using other strategies to promote learning, increasing hiring. Micro companies do not provide trainings because of financial constraints (47%). Large companies do not provide mainly because of the lack of time (42%). Medium companies responded that available courses are not relevant for them (29%).

25. The majority of employees from respondent companies have not participated in any training during the past 12 months.

26. According to the survey results, the employees who participated in professional trainings were mainly professionals, services and sales workers and skilled agricultural, forestry, fishery workers.

27. Almost half of the trainings financed by companies were in the area of compliance with regulatory requirements, customer requirements or quality system requirements.

28. Majority of companies have no preference on age, educational level, and gender of employees when targeting them for specific trainings.

29. The results of the survey among the respondent companies show that among the companies who provide trainings for their employees, by 85.36% were delivered by the company/ other employees of the company for targeted employees and only 9.66% of the trainings were conducted by private sector training providers.

30. Only about 16% of respondents plan to provide training for their employees in the next 12 months.

31. The other respondent companies that plan to provide trainings in the next 12 months mentioned that they need to provide trainings for sales managers to develop the skills of sales, communication, technical, foreign languages, working effectively on their own. Others plan to provide trainings for masters to develop the skills of efficient use of materials, technical, team working and targeted managers to enhance the skills of leadership, organizational and planning skills.

32. The main reasons of not planning to provide trainings for employees are mentioned financial constraints and availability of courses relevant for their company.

33. The most important factors for the respondent companies when deciding on which training to choose for their employees are considered the courses tailored to meet the specific need of the company, proper timing and applied methodology. Price, location and duration are also important.

34. Half of the employers find that the most suitable time for training is during work hours. 29% mentioned that after work hours are more suitable for them.

35. Director is responsible for human resource development in 87.8% among the interviewed companies. This can be the consequence of the sample selected.

36. Most of the companies do not have annual budget in the company reserved for training activities.

37. The results show that for upcoming 12 months the companies that participated in the survey, are not planning to shorten the number of staff within the company.

38. The highest demand of hiring new staff is in plant and machine operators segment, people with elementary occupations and managerial positions.

39. The reason for increasing the number of employees in craft and related segment and in managerial positions is the expansion of production in the companies.

40. Technicians and associate professionals, plant and machine operators and assemblers are being hired mainly because of changes in technology.

41. Only 10.53% of respondents find that COVID-19 had no negative impact in their sector in terms of skills. On the point of view the most of the companies the pandemic had negative or very negative impact on their sector in terms of skills.

42. Companies plan to overcome pandemic by improving working conditions including Occupational Safety and Health, redefining existing jobs, expanding recruitment channels, increasing the number of trainings to strengthen the existing workforce.

43. Majority of the companies participating to the survey think that OSH specialist should not become a mandatory position because of pandemic.

44. 51% of the respondents think that they don't need to retrain staff as a reaction to the COVID-19 pandemic. 27% think that they partly need training and 22% of the respondent companies think that the staff must be retrained.

These conclusions can help the government, society and companies to improve the employability of workers, give competitive advantages toward workforce development and bring to skilled employment growth. Based on the survey, research results and the conclusions, recommendations, suggestions and action plans can be developed.

5. RECOMMENDATIONS

Recommendations have been developed based on the analysis of the survey questions and the conclusions presented in the previous section.

1. As the sales of the products or services of the respondent companies were 86.7% (on average) distributed locally, within a certain town or local area, export can also become a profitable direction for these companies. This is a good opportunity for the companies to enlarge their production and open new workplaces.

2. As 98% of the survey respondents were not familiar with the Armenian national educational and training policy, some activities must be performed to involve this institution into workforce development process such as governmental policy framework review, training and skills development system improvement.

3. In order to overcome recruiting process difficulties some companies should increase trainings for existing workforce. Besides, the expansion of recruitment channels or increase of salaries can make jobs more attractive.

4. Though online recruitment and social media have become the most preferred ways when finding employees, it should be stated that other ways of recruitment can also be useful, such us dissemination of information among company existing staff, among business associations, educational institutions.

5. In order to help companies in having hard-to-fill vacancies, involvement of enterprises in work-based learning mechanisms play significant role in it. Quality Apprenticeships can reduce the skills gap or other work-based learning can be organized for improving activities such as on-the-job training programs. Specifically, trainees get paying jobs in which they learn specialized skills that are useful in specific industries or occupations. So developing work-based learning programs in Armenia can lead having specialized workforce.

6. Participation in training can increase the effectiveness, productivity of employees, help in the development of their skills and raise of motivation. Every employee should work on self-development

7. Lifelong learning plays important role for career development of every employee and it is great personal development tool. Improved lifelong trainings can increase the productivity of employees, help in the development of their skills and raise of motivation.

8. Training companies, educational institutions can suggest training programs, available courses relevant for the needs of respondent companies. They should also suggest points of courses tailored to meet the specific need of the company.

9. The survey process has somehow helped the respondent companies in making the new staff hiring process efficient. Many companies are not aware of the current or future workforce gaps and this can play strategic role for the company development. Enterprises can be involved in the pre-enrolment activities, commit time and resources for keeping new hires informed ab out working conditions.

10. The larger the company the more funding being directed to recruitment channels. HR department's role is also indicating that large companies have this department for hiring the best employees (66% of large companies have HR department or responsible HR person).But at the same time analysis show that small companies are not directing funds for employee career development.

    Some companies have difficulties in finding appropriate employee, small companies have such difficulties as the best candidates rush to work with top companies. Mechanisms should be developed to help employers find appropriate employees and work with employees to motivate them work also in small companies. Higher involvement of employers in curriculum development would also benefit the system.

11. Companies should establish pandemic-related policies and procedures. They must have some learning courses or perform some activities for the workers, which will help them to adopt to rapid changing conditions.

Annex 1. Questionnaire

Employers Survey on Skills Needs

Questionnaire

> Dear employer,
> We are calling from [organization name]. My name is [interviewer name].
>
> We are conducting a national survey among employers to identify key skills issues of workforce to provide inputs for planning and programming of TVET in Armenia, as well as to contribute to more active and substantial involvement of employers into education and skills policies in the country.
>
> We will ask [total number] questions. Please, answer these questions. We hope this is of value for you too.

1. **Basic Information and Workforce Occupational Structure and Characteristics**

   1.1 Company name   (as stated in the registration certificate)

   1.2 Address: Street address, number, postal code

   1.3 Contact person   (name and surname)

   1.4 Contact person's phone number

   1.5 Contact person's e-mail

   1.6 Position of the interviewee(s)

   1.7 Interviewer   (name and surname)

   1.8 Interviewer's phone no.

   1.9 Date of the interview   __/__/____

1.10 How long has your company been in existence?_____

1.11 Please indicate region (or location of head office) of your company? _____

1.12 What is the ownership structure of the company?
☐ Private, domestic
☐ State-owned (public)
☐ Private, multinational
☐ Cooperative
☐ Other (please, specify)

1.13 In which economic sector does the company operate?
☐ Industry, Metal processing
☐ Agriculture and food production
☐ Tourism & hospitality
☐ Transport & logistics
☐ Energy
☐ Trade
☐ Financial services & Insurance
☐ IT
☐ Chemical & cosmetic production
☐ Pharmaceutics
☐ Mining
☐ Service providers
☐ Business consulting, accounting & training
☐ Alcoholic beverages
☐ Construction
☐ Production of construction materials

1.14 What is the size of the company?
- 1   Large (250 persons and more)
- 2   Medium (50-250 persons))
- 3   Small (10–50 persons)
- 4   Micro (up to 10 persons)

1.15   Could you please approximately indicate the distribution of the market sales of your products or services?

Locally, within a certain town or local area	%
Regionally within the country	%
Nationally	%
Outside the country	%
TOTAL:	100%

1.16 How many employees does your company employ?

1.17 Can you please indicate the educational attainment of your employees?

Educational attainment	Total no. of employees	No. of women employed
Less than primary		
Primary education		
General secondary		
Vocational education		
Post-secondary		
University - graduate		
University - post-graduate		

1.18 Can you please indicate the number of employees as per the following occupations?

Occupationы1	Total N of employees	No. of women employed
Managers		
Professionals		
Technicians and Associate Professionals		
Clerical Support Workers		
Services and Sales Workers		
Skilled Agricultural, Forestry and Fishery Workers		
Craft and Related Trades Workers		
Plant and Machine Operators and Assemblers		
Elementary Occupations		

2. Education and Training System and Policy

2.1 Do you know of or are you familiar with the national education and training policy?
- ☐Yes I know about it (if yes, go to Q2.2)
- ☐No I don't know about it (if no, go to Q2.3)

2.2 What extent do you think the education and training policy developed by national authorities is supportive to your business development?
- ☐Supportive
- ☐Partly supportive
- ☐Not supportive at all

2.3 In your opinion, do you think employers/companies are consulted when new/existing education and training policies are created/upgraded?
- ☐Often
- ☐Sometimes
- ☐Rarely
- ☐Never
- ☐Don't know/Not applicable

2.4 Are you aware of any recent improvements or reforms to the education and training system that have had a positive impact on your company?
- ☐Yes
- ☐No (if No, go to Q2.5)

---

[1]Please see Attachment at the end of Questioonnaire - ISCO-08 (International Standard Classification of Occupations).

2.4.1 If yes, please explain what the change has been and how it has had a positive effect?
(for example: the development of new education and training programs; the involvement of employers in educational institutions management boards; the involvement of employers in the delivery or assessment of training programs; new or improved apprenticeships schemes; cooperation in the framework of projects; participation of employers in the review or development of policies and laws on education and training.)

2.5. In the last 12 months, in what way have you been involved in the Armenian education and training system?
☐ in the development of national or sectorial policies, action plans or strategies
☐ in the development of curriculum or assessments
☐ in the development of strategies or action plans for education and training institutions
☐in organizing Work placements
☐in the Up-skilling of staff from education and training institutions
☐Guest lecturing
☐participating in Research
☐providing Equipment and facilities to education and training institutions
☐giving Philanthropic grants of equipment, consumables or cash to education and training institutions
☐providing apprenticeship places
☐being involved in management boards of education and training institutions

2.6 In your opinion, where are the main shortcomings of Armenian education and training system, if any? More answers are possible.
☐In the development of policies and programs
☐In the delivery and assessment of programs
☐In monitoring and evaluation of programs
☐Other
☐No shortcomings in my view
(please provide details of what exactly are the perceived short comings)

2.7 In your view, do companies consider the available apprenticeships and practical training arrangements adequate to their needs?
☐No
☐Somewhat
☐Mostly
☐Completely
☐Don't know/Not applicable
If not, why not?

2.8. In your opinion, are young women and men coming out of the education system generally equipped with skills and attitudes required by companies?
☐No
☐Somewhat
☐Mostly
☐Completely
☐Don't know/Does not apply

If not, which skills do you think should be developed more effectively?
(differentiate between foundational skills like literacy and numeracy; core skills like team work and problem solving; and technical skills like welding etc)

2.9 Which actions should education institutions take in order to improve the employability of their graduates? Choose one of the following answers.
☐Consult better with employers to make courses more relevant to the needs of employers
☐Include more practical training in the education and training institutions
☐Include sector specific work placements as an integral part of the course
☐Facilitate relations between graduates and companies
☐Involve social partners in management's boards
☐Involve employers directly in the delivery and assessment of training
☐Other

2.10. In your view, do you think there are skill shortages in your sector?

If so, what are those skill shortages? If not, go to Q2.12

2.11 How do you think these skills shortages negatively affect the firms in your sector (in terms of loss of time, financial recourses, productivity, clients and quality)?
  ☐No negative impact
  ☐somewhat negative impact
  ☐Negative impact
  ☐Very negative impact
  ☐Don't know /Does not apply

2.12. Do you know whether there are State employment and training schemes available that could assist companies with skills shortages?
  ☐No
  ☐They were available in the past
  ☐They will be available in the near future
  ☐Yes
  ☐Don't know

2.13. If so, do you think these were or are effective?
  ☐No, not effective
  ☐Somewhat effective
  ☐Effective
  ☐Very Effective
  ☐Don't know/Does not apply

  If not, why not?

2.14 How straightforward were or are they to access these schemes?
  ☐Not straightforward
  ☐Somewhat straightforward
  ☐Straightforward
  ☐Very straightforward
  ☐Don't know/Does not apply

3.   Recruitment & Recruitment Difficulties

3.1 Do you expect to recruit new workers in the next 12 months?

☐Yes
☐No

3.2 If yes, for which occupations given below?

OCCUPATION TITLE	Education attainment	Expected N. of workers to be employed
Managers		
Professionals		
Technicians and Associate professionals		
Clerical Support workers		
Services and sales workers		
Skilled agricultural, forestry and fishery workers		
Craft and related trades workers		
Plant and machine operators and assemblers		
Elementary occupations		

3.3. On a scale of 1 to 5, how important are the following factors in recruiting new employees?
  ☐ Anticipated growth in business
  ☐ Actual growth in business
  ☐ Higher turnover of staff
  ☐ Increasing complexity of tasks
  ☐ Development of new kind of products or services
  ☐ Modernization of the equipment or technologies

3.4 How are vacancies in your company normally filled?

> 1. On-line advertisements
> 2. From education/training institutions
> 3. From State Employment Agency(s)
> 4. From private employment agencies
> 5. Relatives or friends
> 6. Promoting employees already in enterprise
> 7. From business associations/employers' unions
> 8. Other, please specify_____

3.5 How many vacancies (number), if any, do you currently have at your company? _____
If none, →go to Section 4

3.6 In which specific occupations do you currently have vacancies?

	OCCUPATION TITLE	Education attainment	No. of vacancies
1			
2			
3			

3.7 Are any of these vacancies proving hard-to-fill? (if no hard-to-fill vacancies go to Section 4)

	YES	NO
OCCUPATION 1		
OCCUPATION 2		
OCCUPATION 3		

3.8 Select please the most important reasons, which make vacancies hard-to-fill

	Occ. 1	Occ. 2	Occ. 3
Low number of jobseekers generally			
Not enough people interested in this job			
Wages offered are too low			
Unattractive working conditions			
Lack of career prospects			
Applicants lack the required work experience			
Applicants have poor attitudes, motivation			
Applicants have poor qualifications/skills			
Applicants have poor education level			
Other, please specify _____			

3.9 Which are the company's plans to overcome the problem of hard-to-fill vacancies?

	Occ. 1	Occ. 2	Occ. 3
Increase salaries to make the job more attractive			
Increase the training given to existing workforce			
Redefine existing jobs			
Use technology as a substitute for labor			
Expand recruitment channels			
Apply to State employment or training scheme			
Improve working conditions including OSH			
Other, please specify_____			

3.10 In the last 24 months has your company hired graduates from secondary school, technical and vocational institution or university?
☐Yes
☐No

3.11 How well graduates from higher educational establishments were prepared for work?
- ☐ Very well prepared
- ☐ Well prepared
- ☐ Prepared
- ☐ Poorly prepared
- ☐ Very poorly prepared

3.12 How well TVET graduates were prepared for work
- ☐ Very well prepared
- ☐ Well prepared
- ☐ Prepared
- ☐ Poorly prepared
- ☐ Very poorly prepared

3.13 Can you rate your satisfaction with the higher education and TVET graduates that your company has recruited in the last 24 months in terms of the skills they possess?
- Very satisfied 1
- Rather satisfied 2
- Rather not satisfied 3
- Not satisfied at all 4
-NA 5

3.14 Can you please list a maximum of 3 skills VET and higher education graduates should possess that your company requires now (or within the next 24 months) and 3-5 years from now?

Skills	now (or within the next 24 months)	3-5 years from now (or beyond)
1.		
2.		
3.		

4   Skills Used by the Current Workforce

4.1 Which particular skills are most important for your business when recruiting a new employee? Please grade in a scale from 1 (no importance) to 5 (extremely important)

	Grade 1-5
Technical skills required for this occupation; Technical skills relating to specific equipment or processes used in the company	
Understanding written documents and writing clearly	
Ability to calculate, read and use figures and tables	
Learn to learn skills	
Negotiation skills	
Acquiring, interpreting and communicating information	
Leadership skills	
Team working	
Working effectively on their own	
Flexibility and adaptability skills	
ICT skills	
Decision-making skills	
Problem-solving skills	
Efficient use of materials, technology, equipment and tools	
Organizational and planning skills	
Other (please specify)	

4.2 Amongst your current workers, where are there skill gaps?

4.2.1 Technical skills required for this occupation; technical skills relating to specific equipment
or processes used in the establishment, technical skills relating to specific equipment
or processes used in the company
4.2.2 Understanding written documents and writing clearly
4.2.3 Ability to calculate, read and use figures and tables
4.2.4 Learn to learn skills
4.2.5 Negotiation skills

4.2.6 Acquiring, interpreting and communicating
information
4.2.7 Leadership skills
4.2.8 Team working
4.2.9 Working effectively on their own
4.2.10 Flexibility and adaptability skills
4.2.11 ICT Skills
4.2.12 Decision-making skills
4.2.13 Problem-solving skills
4.2.14 Efficient use of materials, technology, equipment
and tools
4.2.15 Organizational and planning skills
4.2.16 Other (please specify)

4.3 What is being done to overcome the problem of skills gaps in your company?

1. Hiring has increased
2. Further training has been provided
3. Other strategies have been used to promote learning
4. Work location within the company has been changed
5. Influence has been used on education (educational providers) in order to ensure the inflow
6. of newcomers
7. Use State employment and training schemes
8. No special measures have been taken
9. Other measures (please specify)

5. Workforce Development

5.1 During the past 12 months have your employees participated in any training courses organized within or outside of the company?

Yes (indicate % of employees for each below listed category who took part in professional training)
- Managers
- Professionals
- Technicians and associate professionals
- Clerical support workers
- Services and sales workers
- Skilled agricultural, forestry and fishery workers
- Craft and related trades workers
- Plant and machine operators and assemblers
- Elementary occupations

No trainings were provided in the past 12 months.

5.2 In which areas did your company finance the training?
  5.2.1 Induction training
  5.2.2 Occupational health and safety
  5.2.3 Compliance with regulatory requirements, customer requirements or quality system requirements
  5.2.4 Foreign language
  5.2.5 IT training
  5.2.6 Management and administration
  5.2.7 Training in new technology/new product or service
  5.2.8 Environmental protection
  5.2.9 Accounting and finance
  5.2.10 Other (Please specify)

5.3 Which categories of workers (by gender, age and educational level, PWD) was mostly targeted by training?

	Managers Professionals Administrative staff	Plant and machine operators, Elementary occupations
Age:		
1. Workers between 15 and 24	_____	_____
2. Workers between 24-45	_____	_____
3. Workers over 45	_____	_____
4. No preference	_____	_____
Gender:		
1. Female workers	_____	_____
2. Male workers	_____	_____
3. No preference	_____	_____
Education:		
1. Less than primary	_____	_____
2. Primary	_____	_____
3. General secondary	_____	_____
4. VET		
5. Post-secondary		
6. University and post-graduate	_____	_____
7. Doctoral	_____	_____
PWD:		
Persons with disabilities	_____	_____

5.4 Who delivered the majority of the trainings for your employees in the past 12 months?
    5.4.1 Your company (other employees)
    5.4.2 A public education institution (VET school, university)
    5.4.3 A private sector training provider
    5.4.4 Individual consultants
    5.4.5 Chambers/employers organizations

5.5 Are you planning to provide training for your employees in the next 12 months?
    a)   If yes, for which occupations/skills (list maximum of 3)

OCCUPATION TITLE	NAME OF SKILL

    b)   If not, what is the reason for it?

☐Lack of time for training
☐Financial constraints
☐Available courses are not relevant for our company
☐There is a lack of information about the available courses
☐The quality/standard of the available courses is not satisfactory

5.6 How important are the following factors when deciding on which training to choose?
☐Proper timing
☐Duration of training
☐Location
☐Applied methodology
☐Price
☐Trainers' reputation
☐Certificate provision
☐Courses are tailored to meet the specific needs of the company
☐Other, (please specify)

5.7 In your experience, what is the most suitable time for training?
☐During work hours
☐After work hours
☐On weekends

5.8 Who in the company is responsible for human resources development?
☐Director
☐Department or responsible HR person
☐NA

5.9 Is there an annual budget in the company reserved for training activities?
☐Yes
☐No

6. Demand for Workforce

6.1 Are you planning to reduce staff or hire new employees in the coming 12 months?

	I will reduce the number of workers	No hiring	Low probability	Medium Probability	High probability	Very high probability	We have vacancies now
Managers							
Professionals							
Technicians and associate professionals							
Clerical support workers							
Services and sales workers							
Skilled agricultural, forestry and fishery workers							
Craft and related trades workers							
Plant and machine operators and assemblers							
Elementary occupations							

6.2 If you are planning to reduce the number of staff, what would be the main reason for reduction of the number of employees by occupations?

	Reduction of production	Changes in technology	Readjustment of workforce	Sub-contracting	Other reasons
Managers					
Professionals					
Technicians and associate professionals					
Clerical support workers					
Services and sales workers					
Skilled agricultural, forestry and fishery workers					
Craft and related trades workers					
Plant and machine operators and assemblers					
Elementary occupations					

6.3 What would be the main reason for increase the number of employees by occupations?

	Expansion of production	Changes in technology	Outsourcing	Other reasons
Managers				
Professionals				
Technicians and associate professionals				

Clerical support workers				
Services and sales workers				
Skilled agricultural, forestry and fishery workers				
Craft and related trades workers				
Plant and machine operators and assemblers				
Elementary occupations				

You are welcome to use this box to make any additional comment or suggestion you may have.

Thank you for your time and cooperation!

■■

7. COVID-19 related questions:

7.1 In your point of view will the COVID-19 pandemic impact your sector in terms of skills negative?

☐ No negative impact
☐ somewhat negative impact
☐ Negative impact
☐ Very negative impact
☐ Don't know/Does not apply

7.2 Which actions should education institutions take in order to help the companies overcome the labor force and skills problems as an impact of COVID-19 pandemic.

7.3. Which are the company's plans to overcome the negative impact of the COVID-19 pandemic?

	Occ. 1	Occ. 2	Occ. 3
Increase salaries to make the job more attractive			
Increase the training given to existing workforce			
Redefine existing jobs			
Use technology as a substitute for labor			
Expand recruitment channels			
Apply to State employment or training scheme			
Improve working conditions including OSH			
Other, please specify_____			

7.4. Do you think that OSH specialist should become a mandatory position for the companies as a result of COVID-19 pandemic ?
☐ Yes
☐ No
Please, explain your choice.

7.5. Do you intend to retrain your staff as a reaction to the COVID-19 pandemic?
☐ Yes
☐ Partly
☐ No

International Standard Classification of Occupations

Major Goups and Sub-major Groups

1. Managers

      11 Chief Executives, Senior Officials and Legislators

      12 Administrative and Commercial Managers

      13 Production and Specialized Services Managers

      14 Hospitality, Retail and Other Services Managers

2. Professionals

      21 Science and Engineering Professionals

      22 Health Professionals

      23 Teaching Professionals

      24 Business and Administration Professionals

      25 Information and Communications Technology Professionals

      26 Legal, Social and Cultural Professionals

3. Technicians and Associate Professionals

      31 Science and Engineering Associate Professionals

      32 Health Associate Professionals

      33 Business and Administration Associate Professionals

      34 Legal, Social, Cultural and Related Associate Professionals

      35 Information and Communications Technicians

4. Clerical Support Workers

      41 General and Keyboard Clerks

      42 Customer Services Clerks

      43 Numerical and Material Recording Clerks

      44 Other Clerical Support Workers

5. Services and Sales Workers

      51 Personal Services Workers

      52 Sales Workers

      53 Personal Care Workers

      54 Protective Services Workers

6. Skilled Agricultural, Forestry and Fishery Workers

      61 Market-oriented Skilled Agricultural Workers

      62 Market-oriented Skilled Forestry, Fishery and Hunting Workers

      63 Subsistence Farmers, Fishers, Hunters and Gatherers

7. Craft and Related Trades Workers

      71 Building and Related Trades Workers (excluding Electricians)

      72 Metal, Machinery and Related Trades Workers

      73 Handicraft and Printing Workers

      74 Electrical and Electronic Trades Workers

      75 Food Processing, Woodworking, Garment and Other Craft and Related Trades Workers

8. Plant and Machine Operators and Assemblers

    81 Stationary Plant and Machine Operators

    82 Assemblers

    83 Drivers and Mobile Plant Operators

9. Elementary Occupations

    91 Cleaners and Helpers

    92 Agricultural, Forestry and Fishery Laborers

    93 Laborers in Mining, Construction, Manufacturing and Transport

    94 Food Preparation Assistants

    95 Street and Related Sales and Services Workers

    96 Refuse Workers and Other Elementary Workers

10. Armed Forces Occupations

    01 Commissioned Armed Forces Officers

    02 Non-commissioned Armed Forces Officers

    03 Armed Forces Occupations, Other Ranks

Annex 2. Additional information on skills used by the current workforce disaggregated by sectors

In order to test the hypothesis of which industries the following skills are important (scaling from 1 to 5, where 1 is not important and 5 has the highest importance), the cross tabulation method is used.

Industry, Metal processing

Agriculture and food production

Skill	Value
Technical skills required for this...	4.7
Understanding written documents...	2.3
Ability to calculate, read and use...	2.1
Learn to learn skills	4.3
Negotiation skills	3.5
Acquiring, interpreting and...	3.6
Leadership skills	3.5
Team working	4.6
Working effectively on their own	4.4
Flexibility and adaptability skills	4.4
ICT skills	2.4
Decision-making skills	3.5
Problem-solving skills	4.0
Efficient use of materials,...	3.8
Organizational and planning skills	3.7

Tourism & hospitality

Skill	Value
Technical skills required for this...	4.7
Understanding written documents and...	4.4
Ability to calculate, read and use figures...	4.2
Learn to learn skills	4.9
Negotiation skills	4.8
Acquiring, interpreting and...	4.6
Leadership skills	4.5
Team working	4.8
Working effectively on their own	4.9
Flexibility and adaptability skills	4.9
ICT skills	4.5
Decision-making skills	4.8
Problem-solving skills	4.7
Efficient use of materials, technology,...	4.1
Organizational and planning skills	4.7

Transport & logistics

Chart showing skill ratings for Transport & logistics:

- Technical skills required for this…: 3.4
- Understanding written documents…: 3.7
- Ability to calculate, read and use…: 3.1
- Learn to learn skills: 4.1
- Negotiation skills: 4.3
- Acquiring, interpreting and…: 4.7
- Leadership skills: 3.6
- Team working: 4.5
- Working effectively on their own: 4.6
- Flexibility and adaptability skills: 4.8
- ICT skills: 3.4
- Decision-making skills: 3.7
- Problem-solving skills: 4.1
- Efficient use of materials,…: 2.8
- Organizational and planning skills: 3.7

Energy

Chart showing skill ratings for Energy:

- Technical skills required for this…: 5.0
- Understanding written documents and…: 3.6
- Ability to calculate, read and use figures…: 3.5
- Learn to learn skills: 4.6
- Negotiation skills: 3.7
- Acquiring, interpreting and…: 3.6
- Leadership skills: 4.2
- Team working: 4.7
- Working effectively on their own: 4.9
- Flexibility and adaptability skills: 4.8
- ICT skills: 3.3
- Decision-making skills: 4.4
- Problem-solving skills: 4.8
- Efficient use of materials, technology,…: 4.6
- Organizational and planning skills: 4.3

Trade

Technical skills required for this...: 3.9
Understanding written documents and...: 2.8
Ability to calculate, read and use...: 2.6
Learn to learn skills: 4.5
Negotiation skills: 3.8
Acquiring, interpreting and...: 4.0
Leadership skills: 3.1
Team working: 4.2
Working effectively on their own: 4.7
Flexibility and adaptability skills: 4.7
ICT skills: 3.0
Decision-making skills: 3.4
Problem-solving skills: 4.0
Efficient use of materials, technology,...: 3.4
Organizational and planning skills: 3.8

Financial services & Insurance

Technical skills required for this...: 3.8
Understanding written documents and...: 4.5
Ability to calculate, read and use figures...: 4.3
Learn to learn skills: 4.9
Negotiation skills: 4.4
Acquiring, interpreting and...: 3.9
Leadership skills: 3.7
Team working: 4.8
Working effectively on their own: 4.8
Flexibility and adaptability skills: 4.9
ICT skills: 4.6
Decision-making skills: 4.3
Problem-solving skills: 4.3
Efficient use of materials, technology,...: 3.5
Organizational and planning skills: 3.7

Computer techniques or computer servicing

Skill	Value
Technical skills required for this…	4.5
Understanding written documents…	3.2
Ability to calculate, read and use…	3.0
Learn to learn skills	4.9
Negotiation skills	3.8
Acquiring, interpreting and…	4.5
Leadership skills	4.1
Team working	4.9
Working effectively on their own	4.9
Flexibility and adaptability skills	4.5
ICT skills	4.7
Decision-making skills	3.9
Problem-solving skills	4.3
Efficient use of materials,…	2.9
Organizational and planning skills	3.4

Chemical & cosmetic production

Skill	Value
Technical skills required for this…	4.9
Understanding written documents…	3.3
Ability to calculate, read and use…	2.9
Learn to learn skills	4.5
Negotiation skills	3.2
Acquiring, interpreting and…	4.1
Leadership skills	3.0
Team working	4.3
Working effectively on their own	4.7
Flexibility and adaptability skills	4.6
ICT skills	3.3
Decision-making skills	3.7
Problem-solving skills	3.5
Efficient use of materials, technology,…	4.4
Organizational and planning skills	3.8

Pharmaceutics

Skill	Value
Technical skills required for this...	3.8
Understanding written documents...	4.1
Ability to calculate, read and use...	4.0
Learn to learn skills	4.9
Negotiation skills	4.2
Acquiring, interpreting and...	4.8
Leadership skills	3.6
Team working	4.2
Working effectively on their own	4.9
Flexibility and adaptability skills	4.9
ICT skills	3.7
Decision-making skills	3.8
Problem-solving skills	4.4
Efficient use of materials,...	3.9
Organizational and planning skills	4.5

Mining

Skill	Value
Technical skills required for this...	4.6
Understanding written documents...	2.2
Ability to calculate, read and use...	2.2
Learn to learn skills	3.7
Negotiation skills	3.5
Acquiring, interpreting and...	3.6
Leadership skills	4.4
Team working	5.0
Working effectively on their own	4.8
Flexibility and adaptability skills	4.8
ICT skills	2.6
Decision-making skills	4.1
Problem-solving skills	4.4
Efficient use of materials,...	4.1
Organizational and planning skills	4.3

Service providers

Skill	Value
Technical skills required for this...	3.9
Understanding written documents...	3.2
Ability to calculate, read and use...	2.9
Learn to learn skills	4.6
Negotiation skills	4.3
Acquiring, interpreting and...	4.0
Leadership skills	3.8
Team working	4.1
Working effectively on their own	4.5
Flexibility and adaptability skills	4.8
ICT skills	3.0
Decision-making skills	4.4
Problem-solving skills	4.2
Efficient use of materials,...	3.6
Organizational and planning skills	3.4

Business consulting, accounting & training

Skill	Value
Technical skills required for this...	4.0
Understanding written documents and...	4.7
Ability to calculate, read and use figures...	4.4
Learn to learn skills	5.0
Negotiation skills	4.8
Acquiring, interpreting and...	4.8
Leadership skills	4.5
Team working	4.8
Working effectively on their own	4.8
Flexibility and adaptability skills	5.0
ICT skills	4.7
Decision-making skills	4.6
Problem-solving skills	4.5
Efficient use of materials, technology,...	3.8
Organizational and planning skills	4.5

Alcoholic beverages

Skill	Value
Technical skills required for this...	4.8
Understanding written documents...	4.2
Ability to calculate, read and use...	3.1
Learn to learn skills	4.7
Negotiation skills	4.4
Acquiring, interpreting and...	4.2
Leadership skills	4.3
Team working	4.9
Working effectively on their own	4.9
Flexibility and adaptability skills	4.8
ICT skills	3.8
Decision-making skills	4.3
Problem-solving skills	4.5
Efficient use of materials,...	4.6
Organizational and planning skills	4.4

Construction

Skill	Value
Technical skills required for this...	4.7
Understanding written documents and...	3.8
Ability to calculate, read and use figures...	3.8
Learn to learn skills	3.9
Negotiation skills	2.9
Acquiring, interpreting and...	2.9
Leadership skills	3.4
Team working	4.4
Working effectively on their own	4.6
Flexibility and adaptability skills	4.4
ICT skills	3.2
Decision-making skills	3.1
Problem-solving skills	3.4
Efficient use of materials, technology,...	3.7
Organizational and planning skills	3.9

Production of construction materials

Skill	Value
Technical skills required for this…	4.9
Understanding written documents and…	3.5
Ability to calculate, read and use…	3.5
Learn to learn skills	4.1
Negotiation skills	2.6
Acquiring, interpreting and…	3.2
Leadership skills	2.3
Team working	4.5
Working effectively on their own	4.6
Flexibility and adaptability skills	4.8
ICT skills	3.1
Decision-making skills	2.8
Problem-solving skills	3.6
Efficient use of materials, technology,…	3.7
Organizational and planning skills	3.2

The distribution of skill gaps amongst current employees of companies, separated by sectors.

Industry, Metal processing

Skill	Percentage
Technical skills required for this...	19%
Understanding written...	2%
Ability to calculate, read and use...	0%
Learn to learn skills	14%
Negotiation skills	3%
Acquiring, interpreting and...	0%
Leadership skills	5%
Team working	5%
Working effectively on their own	8%
Flexibility and adaptability skills	17%
ICT Skills	7%
Decision-making skills	2%
Problem-solving skills	2%
Efficient use of materials,...	12%
Organizational and planning skills	3%
Other	2%

Agriculture and food production

Skill	Percentage
Technical skills required for this...	18%
Understanding written documents...	0%
Ability to calculate, read and use...	3%
Learn to learn skills	13%
Negotiation skills	3%
Acquiring, interpreting and...	0%
Leadership skills	3%
Team working	13%
Working effectively on their own	21%
Flexibility and adaptability skills	5%
ICT Skills	5%
Decision-making skills	5%
Problem-solving skills	5%
Efficient use of materials,...	5%
Organizational and planning skills	3%
Other	0%

Tourism & hospitality

Skill	%
Technical skills required for this…	3%
Understanding written documents…	6%
Ability to calculate, read and use…	0%
Learn to learn skills	22%
Negotiation skills	11%
Acquiring, interpreting and…	3%
Leadership skills	3%
Team working	11%
Working effectively on their own	3%
Flexibility and adaptability skills	8%
ICT Skills	6%
Decision-making skills	8%
Problem-solving skills	0%
Efficient use of materials,…	3%
Organizational and planning skills	14%
Other	0%

Transport & logistics

Skill	%
Technical skills required for this…	10%
Understanding written documents…	0%
Ability to calculate, read and use…	0%
Learn to learn skills	10%
Negotiation skills	20%
Acquiring, interpreting and…	0%
Leadership skills	0%
Team working	0%
Working effectively on their own	20%
Flexibility and adaptability skills	10%
ICT Skills	0%
Decision-making skills	0%
Problem-solving skills	0%
Efficient use of materials, technology,…	0%
Organizational and planning skills	20%
Other	10%

Energy

Skill	%
Technical skills required for this...	43%
Understanding written...	0%
Ability to calculate, read and use...	0%
Learn to learn skills	0%
Negotiation skills	0%
Acquiring, interpreting and...	0%
Leadership skills	0%
Team working	0%
Working effectively on their own	29%
Flexibility and adaptability skills	14%
ICT Skills	14%
Decision-making skills	0%
Problem-solving skills	0%
Efficient use of materials,...	0%
Organizational and planning skills	0%
Other	0%

Trade

Skill	%
Technical skills required for this...	7%
Understanding written documents and...	1%
Ability to calculate, read and use...	0%
Learn to learn skills	9%
Negotiation skills	4%
Acquiring, interpreting and...	1%
Leadership skills	5%
Team working	15%
Working effectively on their own	14%
Flexibility and adaptability skills	16%
ICT Skills	12%
Decision-making skills	6%
Problem-solving skills	1%
Efficient use of materials, technology,...	4%
Organizational and planning skills	4%
Other	1%

Financial services & Insurance

Category	Value
Technical skills required for this...	27%
Understanding written documents...	0%
Ability to calculate, read and use...	0%
Learn to learn skills	18%
Negotiation skills	0%
Acquiring, interpreting and...	0%
Leadership skills	0%
Team working	9%
Working effectively on their own	27%
Flexibility and adaptability skills	0%
ICT Skills	9%
Decision-making skills	0%
Problem-solving skills	0%
Efficient use of materials,...	9%
Organizational and planning skills	0%
Other	0%

Computer techniques or computer servicing

Category	Value
Technical skills required for this...	6%
Understanding written documents...	0%
Ability to calculate, read and use...	0%
Learn to learn skills	6%
Negotiation skills	11%
Acquiring, interpreting and...	6%
Leadership skills	6%
Team working	6%
Working effectively on their own	17%
Flexibility and adaptability skills	11%
ICT Skills	11%
Decision-making skills	11%
Problem-solving skills	6%
Efficient use of materials,...	0%
Organizational and planning skills	6%
Other	0%

Chemical & cosmetic production

Skill	%
Technical skills required for this…	33%
Understanding written documents…	0%
Ability to calculate, read and use…	0%
Learn to learn skills	11%
Negotiation skills	11%
Acquiring, interpreting and…	0%
Leadership skills	0%
Team working	0%
Working effectively on their own	0%
Flexibility and adaptability skills	33%
ICT Skills	0%
Decision-making skills	0%
Problem-solving skills	11%
Efficient use of materials,…	0%
Organizational and planning skills	0%
Other	0%

Pharmaceutics

Skill	%
Technical skills required for this…	14%
Understanding written documents…	14%
Ability to calculate, read and use…	0%
Learn to learn skills	0%
Negotiation skills	29%
Acquiring, interpreting and…	0%
Leadership skills	0%
Team working	0%
Working effectively on their own	14%
Flexibility and adaptability skills	14%
ICT Skills	0%
Decision-making skills	0%
Problem-solving skills	0%
Efficient use of materials,…	0%
Organizational and planning skills	0%
Other	14%

Mining

Skill	%
Technical skills required for this…	0%
Understanding written documents…	0%
Ability to calculate, read and use…	0%
Learn to learn skills	0%
Negotiation skills	0%
Acquiring, interpreting and…	0%
Leadership skills	0%
Team working	20%
Working effectively on their own	20%
Flexibility and adaptability skills	20%
ICT Skills	0%
Decision-making skills	0%
Problem-solving skills	20%
Efficient use of materials,…	20%
Organizational and planning skills	0%
Other	0%

Service providers

Skill	%
Technical skills required for this…	0%
Understanding written documents…	8%
Ability to calculate, read and use…	0%
Learn to learn skills	17%
Negotiation skills	17%
Acquiring, interpreting and…	0%
Leadership skills	17%
Team working	0%
Working effectively on their own	8%
Flexibility and adaptability skills	8%
ICT Skills	8%
Decision-making skills	0%
Problem-solving skills	8%
Efficient use of materials,…	8%
Organizational and planning skills	0%
Other	0%

Business consulting, accounting & training

Skill	Percentage
Technical skills required for this...	0%
Understanding written documents...	0%
Ability to calculate, read and use...	0%
Learn to learn skills	0%
Negotiation skills	30%
Acquiring, interpreting and...	0%
Leadership skills	10%
Team working	0%
Working effectively on their own	10%
Flexibility and adaptability skills	0%
ICT Skills	0%
Decision-making skills	0%
Problem-solving skills	30%
Efficient use of materials, technology,...	0%
Organizational and planning skills	20%
Other	0%

Alcoholic beverages

Skill	Percentage
Technical skills required for this...	50%
Understanding written documents...	0%
Ability to calculate, read and use...	0%
Learn to learn skills	0%
Negotiation skills	0%
Acquiring, interpreting and...	0%
Leadership skills	0%
Team working	0%
Working effectively on their own	0%
Flexibility and adaptability skills	0%
ICT Skills	0%
Decision-making skills	0%
Problem-solving skills	0%
Efficient use of materials, technology,...	50%
Organizational and planning skills	0%
Other	0%

Construction

Production of construction materials

Actions that are being done to overcome the problem of skills gaps in companies, separated by sectors.

Industry, Metal processing

Category	Percentage
Hiring has increased	12%
Further training has been provided	50%
Other strategies have been used to promote learning	20%
Work location within the company has been changed	7%
Influence has been used on education (educational providers) in order to ensure the inflow	3%
Use State employment and training schemes	1%
No special measures have been taken	8%

Agriculture and food production

Category	Percentage
Hiring has increased	14%
Further training has been provided	27%
Other strategies have been used to promote learning	14%
Work location within the company has been changed	14%
Influence has been used on education (educational providers) in order to ensure the inflow	11%
Use State employment and training schemes	0%
No special measures have been taken	20%

Tourism & hospitality

Category	Percentage
Hiring has increased	8%
Further training has been provided	33%
Other strategies have been used to promote learning	47%
Work location within the company has been changed	0%
Influence has been used on education (educational providers) in order to ensure the inflow	0%
Use State employment and training schemes	6%
No special measures have been taken	6%

Transport & logistics

Category	Percentage
Hiring has increased	7%
Further training has been provided	47%
Other strategies have been used to promote learning	13%
Work location within the company has been changed	7%
Influence has been used on education (educational providers) in order to ensure the inflow	7%
Use State employment and training schemes	0%
No special measures have been taken	20%

Energy

Category	Percentage
Hiring has increased	10%
Further training has been provided	30%
Other strategies have been used to promote learning	30%
Work location within the company has been changed	0%
Influence has been used on education (educational providers) in order to ensure the inflow	10%
Use State employment and training schemes	0%
No special measures have been taken	20%

Trade

Category	Percentage
Hiring has increased	21%
Further training has been provided	37%
Other strategies have been used to promote learning	5%
Work location within the company has been changed	5%
Influence has been used on education (educational providers) in order to ensure the inflow	11%
Use State employment and training schemes	2%
No special measures have been taken	18%

Financial services & Insurance

Category	Value
Hiring has increased	0%
Further training has been provided	69%
Other strategies have been used to promote learning	6%
Work location within the company has been changed	6%
Influence has been used on education (educational providers) in order to ensure the inflow	13%
Use State employment and training schemes	0%
No special measures have been taken	6%

Computer techniques or computer servicing

Category	Value
Hiring has increased	7%
Further training has been provided	73%
Other strategies have been used to promote learning	0%
Work location within the company has been changed	7%
Influence has been used on education (educational providers) in order to ensure the inflow	0%
Use State employment and training schemes	0%
No special measures have been taken	13%

Chemical & cosmetic production

Category	Value
Hiring has increased	25%
Further training has been provided	63%
Other strategies have been used to promote learning	13%
Work location within the company has been changed	0%
Influence has been used on education (educational providers) in order to ensure the inflow	0%
Use State employment and training schemes	0%
No special measures have been taken	0%

Pharmaceutics

Category	Value
Hiring has increased	0%
Further training has been provided	75%
Other strategies have been used to promote learning	13%
Work location within the company has been changed	13%
Influence has been used on education (educational providers) in order to ensure the inflow	0%
Use State employment and training schemes	0%
No special measures have been taken	0%

Mining

Category	Percentage
Hiring has increased	17%
Further training has been provided	17%
Other strategies have been used to promote learning	0%
Work location within the company has been changed	0%
Influence has been used on education (educational providers) in order to ensure the inflow	33%
Use State employment and training schemes	17%
No special measures have been taken	17%

Service providers

Category	Percentage
Hiring has increased	12%
Further training has been provided	41%
Other strategies have been used to promote learning	24%
Work location within the company has been changed	6%
Influence has been used on education (educational providers) in order to ensure the inflow	12%
Use State employment and training schemes	0%
No special measures have been taken	6%

Business consulting, accounting & training

Category	Percentage
Hiring has increased	0%
Further training has been provided	46%
Other strategies have been used to promote learning	31%
Work location within the company has been changed	0%
Influence has been used on education (educational providers) in order to ensure the inflow	0%
Use State employment and training schemes	8%
No special measures have been taken	15%

Alcoholic beverages

Category	Percentage
Hiring has increased	20%
Further training has been provided	0%
Other strategies have been used to promote learning	40%
Work location within the company has been changed	0%
Influence has been used on education (educational providers) in order to ensure the inflow	0%
Use State employment and training schemes	0%
No special measures have been taken	40%

Construction

Category	Percentage
Hiring has increased	10%
Further training has been provided	30%
Other strategies have been used to promote learning	25%
Work location within the company has been changed	5%
Influence has been used on education (educational providers) in order to ensure the inflow	20%
Use State employment and training schemes	0%
No special measures have been taken	10%

Production of construction materials

Category	Percentage
Hiring has increased	0%
Further training has been provided	25%
Other strategies have been used to promote learning	25%
Work location within the company has been changed	25%
Influence has been used on education (educational providers) in order to ensure the inflow	25%
Use State employment and training schemes	0%
No special measures have been taken	0%