

Jordanian Labor Market Needs - A Research Study

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List of Acronyms

ACC	Amman Chamber of Commerce
ACI	Amman Chamber of Industry
BTEC	Business and Technology Education Council. A Pearson council.
COVID-19	Corona Virus Disease – 2019
CNC	Computer Numerical Controlled machines
DOS	Department of statistics
ERP	Enterprise Recourse Planning
GDP	Gross domestic Product
GIZ	The Deutsche Gesellschaft für Internationale Zusammenarbeit. A German Development Organization
EDU-SYRIA	A development project funded by the European Union to educate and help in the employment of Syrian refugees and underprivileged Jordanians
EDU-SYRIA III	A development project funded by the European Union to educate and help in the employment of 170 Syrian refugees and 80 underprivileged Jordanians mainly in the vocational and technical jobs
EU	European Union
GJU	The German Jordanian University
HVAC	Heating, Ventilation and Air Conditioning industry
ICT	Information Technology Enabled Services
Int@J	The Information and Communications Technology Association In Jordan
ISO	International Standards Organization
IT	Information Technology
ITES	Information Technology Enabled Services
JCI	Jordan Chamber of Industry
LTUC	Luminus Technical University College
MSDS	Material Specifications Data Sheets
NCHRD	National Center for Human resources development
NGO	Non-Governmental Organizations
NUFFIC	Netherlands Universities Foundation for International Cooperation
QIZ	Qualifying Industrial Zones
TOT	Training of the Trainer
TVET	Technical, Vocational, Educational, and Training
TVSD	Technical and Vocation Skills development commission
VRF	Variable refrigerant Flow
VRV	Variable refrigerant Volume

Abstract:

Unemployment rates in Jordan have been a major concern for policy makers over the last few decades. One of the main reasons behind soaring unemployment rates is the mismatch between the skills taught at Technical, Vocational, Educational, and Training (TVET) centers and employers' needs. The COVID-19 pandemic made things worse; the unemployment rate in Jordan is now higher than it has been in decades

To this end, EDU-SYRIA III project took an initiative to study the Jordanian labor market and understand the mismatch as well as the impact of the COVID-19 pandemic. It then designed short "6-month" job-readiness training programs to prepare candidates for this challenging labor market.

EDU-SYRIA III project is made of two main research tracks; desk research and field research. The desk research cited current Jordanian labor literature along with available data at Amman Chamber of Industry (ACI) and Amman Chamber of Commerce (ACC). The field research consisted of personal interviews with 50 employers working in determined sectors and 16 graduates of TVET programs. These interviews were followed by interviews / focus groups meetings with 12 experts in each sector tasked with creating credible forecasts of available jobs in each sector in the following year.

The desk research revealed great expectations for employment in the recovery time after

COVID-19. The field research confirmed this fact, but also shed a light on the gap between labor market expectations and TVET centers' output. The field research also revealed many areas of improvement for TVET centers to perform in order to achieve more harmony with labor market needs. Results obtained from field research and desk research were used to create a list of recommendations to design future training programs. Furthermore, a list of recommended training programs are suggested.

This project is performed with the intention of modifying current training programs and creating new training programs to be provided to Syrian refugees and underprivileged Jordanians as part of EDU-SYRIA projects.

Introduction

For the last few decades, according to economists and the Jordanian Government, poverty and unemployment have been the two main issues facing the Jordanian economy. The two are closely related and if we solve the unemployment issue, then poverty becomes less of an economic issue.

In many cases, unemployment is caused by the fact that workforce is not trained or ready to fulfil job requirements. Even though most of those applying for jobs are graduates from TVET institutions, they do not seem to perform



well in the workplace. Most business owners highlight the issue as a gap between job needs and skills taught at TVET centers. Some of these skills are soft skills, such as teamwork and interpersonal skills and some are technical skills that vary from a job to another.

With the presence of COVID-19 pandemic over the last two years, global unemployment hit new records, and poverty has never been worse. This has made employability research efforts even more important in all sectors. The post COVID-19 era is expected to be very challenging as businesses return to operation with many new health related regulations in into place.

Our research project is part of EDU-SYRIA projects in Jordan. EDU-SYRIA projects are actively working with Syrian refugees and underprivileged Jordanian job seekers to minimize unemployment rate and equip workers with the needed skills in the labor market. In EDU-SYRIA III project, the objective is to study the mismatch between what educational institutions in Jordan produce and what business owners are looking for. The skill mismatch will be documented, understood, and studied. In a later part of the project, job-readiness training programs will be designed and implemented for 179 Syrian refugees and 80 underprivileged Jordanian candidates to get them ready for the job market.

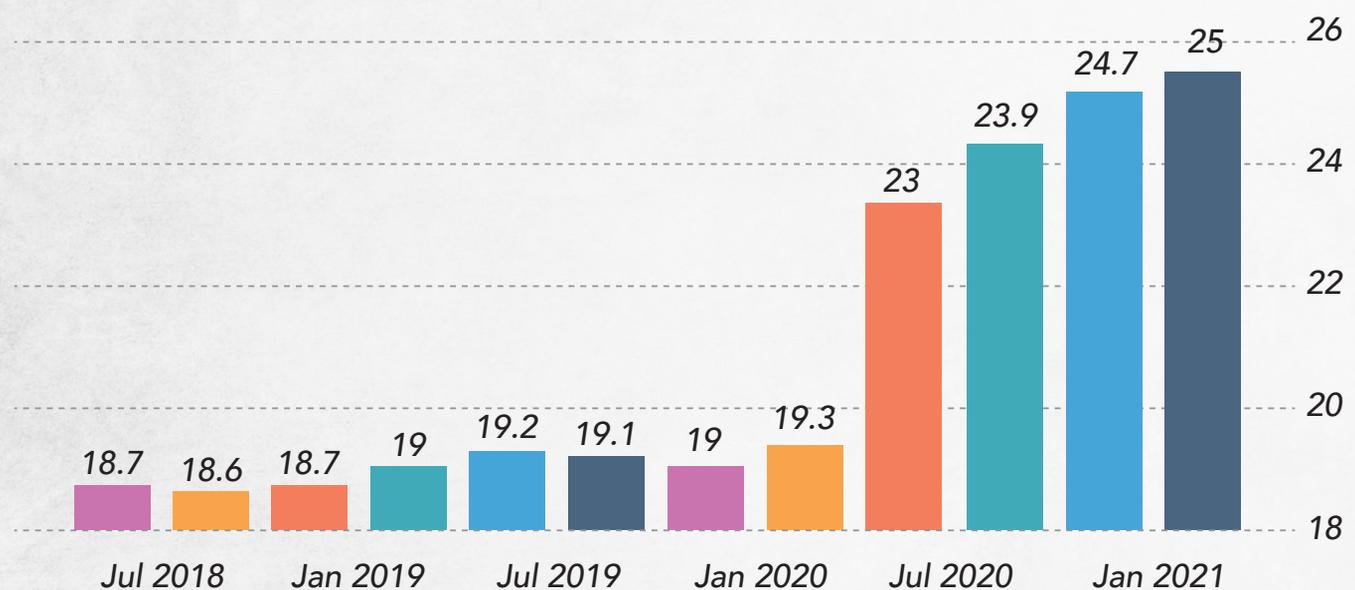
The main objectives of the research project are to provide the necessary information to design and implement job-readiness training programs that cover four manufacturing sectors and logistics. These sectors will be selected based on their abilities to hire underprivileged Jordanians and Syrians in the foreseen future. Within each industry, we will identify potential positions that require high-skilled candidates and pay higher than entry-level positions and then within each proposed position, we will identify needed skills and qualifications. Skills identified may be technical skills or soft skills or a combination of both types.

The main reason behind selecting the manufacturing and logistics sectors, is that these sectors are expected to be among the sectors with the highest hiring rates, especially as COVID-19 pandemic is winding down. The logistics sector thrived during the pandemic and had a great performance in the last few months. The manufacturing sectors were hit during the pandemic but have rebounded in a great fashion in the last few months. Both sectors welcome Syrian refugees and underprivileged Jordanians.

In addition to potential positions that require high-skilled candidates, the research will highlight saturated jobs; jobs that should not be targeted by job seekers. The research will also focus on gender equality and suggest actions to ensure equal opportunities to females in all sectors under consideration.

Current situation in Jordan: The labor market

The unemployment rate in Jordan soared to 24.7% in the last quarter of 2020¹, 48% of which are Jordanian youth^{2, 3}, and even though unemployment rate has always been high in Jordan, COVID-19 pandemic made things worse; in 2020 more than 140,000 people lost their jobs due to the pandemic closures². The unemployment rate in the first quarter of 2021 rose to 25%, 50% of which are Jordanian youth. Figure 1 reveals the alarming trend in unemployment in Jordan for the last 3 years, which is expected to rise to 25.4 by end of 2021. In fact, all Jordanian governorates report unemployment figures that keep climbing year after year. A good picture of how all governorates perform can be seen in Figure 2. The report represents unemployment case in 2015⁵.



SOURCE: TRADINGECONOMICS.COM | DEPARTMENT OF STATISTICS, JORDAN

Figure 1: Unemployment trends in Jordan in the last three years⁴

Department of statistics unemployment report, 2021: http://dosweb.dos.gov.jo/ar/unemp_q4_2_2021/
Jordan Labor Watch; <http://labor-watch.net/en/home>
World bank economic report: <https://www.albankaldawli.org/ar/country/jordan/overview>
Trading economics report on Jordan Unemployment: <https://tradingeconomics.com/jordan/unemployment-rate>
Department of Statistics report on unemployment in Jordanian governorates 2015



Published unemployment data reveals alarming facts regarding youth unemployment: 51.1% of the unemployed are secondary certificate holders and higher, while 48.9% have less than secondary school qualifications. The percentage of the unemployed varied according to educational level and gender. The percentage of unemployed males holding a bachelor's degree or higher reached 24.5% compared to 75.8% for females. The highest rate of unemployment is recorded in the age group 15-19 and 20-24 years by 62.1% and 47.9% respectively⁶.

On the other hand, many studies revealed mismatch between graduates' skill levels and market's needs. Many business owners complain about the lack of skills or poor skill levels for many of those applying for jobs at their businesses⁷. Educational institutions in Jordan continue to graduate thousands of students every year, adding significantly to the staggering number of young job seekers. These graduates are often insufficiently prepared for the workplace. Syrian refugees, who make up an estimated 10 percent of Jordan's population, are also in need of employment.

The Department of Statistics (DOS) published many studies about the distribution of workforce in Jordan for Jordanians, Syrians, and other nationalities up to 2018. Distribution details can be seen in Table 1. The Table shows clearly that Syrian males do not work in many areas available in the market, and the case for Syrian females is even worse⁸.

⁶Department of statistics report on unemployment in the 4th quarter of 2020: http://dos.gov.jo/dos_home_e/main/archive/Unemp/2020/Emp_Q4_2020.pdf

⁷Dagher A.K., Al-Tarawneh I.Y., Al-Qudah M.A.H., 'Matching education outcomes with Jordanian market needs', 2016, Dirasat Edu, Jordan University. Vol. 43, No. 5, pp. 2033-2049.

⁸ <https://journals.ju.edu.jo/index.php/DirasatEdu/article/viewFile/9517/7305?target=blank>

DOS report for employees by economic activity, nationality and sex for year 2018: http://www.dos.gov.jo/owa-user/owa/employment.emp_show_t3

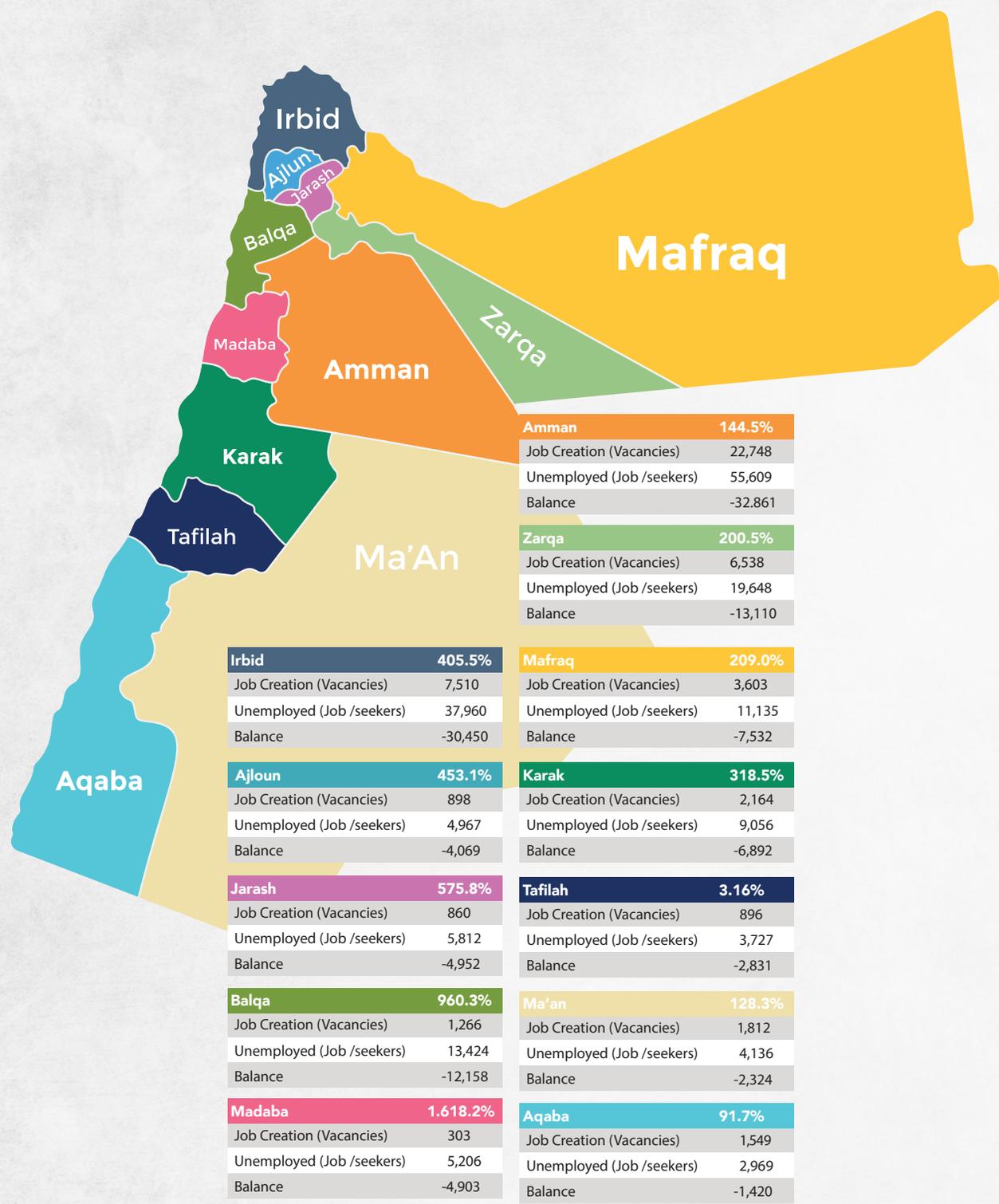


Figure 2: DOS unemployment in Jordanian governorates 2015⁵

Table 1: Distribution of workforce nationalities in Jordan (2018)⁸

Economic activity	Total		Jordanian		Syrian		Egyptian		Other Arabs		Foreigner	
	M	F	M	F	M	F	M	F	M	F	M	F
Mining and Quarrying	2,368	48	1,680	48	11	0	530	0	141	0	6	0
Manufacturing	178,266	46,683	126,870	24,197	7,853	509	21,682	18	3,298	210	18,563	21,749
Electricity, Gas, Steam, and air conditioning Supply	3,287	212	3,282	211	0	0	0	0	2	0	3	1
Water Supply, Sewerage, Waste Management and Remediation Activities	1,907	191	1,766	191	19	0	120	0	1	0	1	0
Construction	32,205	1,091	24,678	1,086	136	0	6,078	5	148	0	1,166	0
Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles	228,839	17,053	203,710	16,758	6,591	24	15,334	66	2,846	112	358	93
Transportation and Storage	14,698	1,385	14,250	1,344	9	0	391	0	48	6	0	35
Accommodation and Food Service Activities	54,230	2,929	40,311	2,509	4,235	1	7,919	60	791	24	975	335
Information and Communication	12,701	4,227	12,476	4,179	38	0	55	0	64	31	69	17
Financial and Insurance Activities	26,536	12,575	26,396	12,520	0	1	64	7	66	13	11	35
Real Estate Activities	5,042	578	4,895	564	0	0	116	14	16	0	15	0
professional, Scientific and Technical Activities	20,038	6,996	19,189	6,941	136	3	347	6	299	37	67	10
Administrative and Support Service Activities	17,965	3,405	16,021	3,369	256	2	1,393	1	207	3	87	30
Education	20,212	42,542	19,837	42,296	65	22	96	7	180	197	35	20
Human Health and Social Work Activities	21,396	21,183	20,183	20,513	16	34	808	128	357	199	32	309
Arts, Entertainment and Recreation	4,432	1,493	4,238	1,404	37	26	128	5	10	3	19	56
Other Service Activities	24,581	9,777	21,629	9,206	910	20	2,039	0	4	532	0	19
Activities of Extraterritorial Organizations and Bodies	142	93	139	93	0	0	0	0	3	0	0	0
Total	668,846	172,461	561,549	147,429	20,311	641	57,099	317	8,479	1,365	21,407	22,709

Most of the Syrian refugee population (83% are self-settled), live among the Jordanian population, primarily in urban areas such as in Amman, Mafraq and Irbid, with 47% of them being of working age⁹. About 51% of the Syrian men living outside camps participate in the Jordanian labor market, with an unemployment rate of 57%. Only 7% of Syrian women participate in the Jordanian labor market¹⁰. Latest data shows that work permits offered to Syrian refugees were concentrated in construction 56%, 25% in agriculture, 6% in manufacturing, 5% in food services, 4% in wholesale trade, and another 4% working in different activities .

Jordanian government and EU representatives signed the Jordan Compact agreement. Under the conditions (i) businesses in Jordan must employ a certain proportion of Syrian refugees and produce in one of 18 Special Economic Zones and (ii) in one of 52 product categories. Once these conditions are met, the rules of origin are also adjusted to require only 30% value addition within Jordan", but even with this agreement, data reveals many sectors and jobs are denied to Syrian refugees in Jordan¹¹.

COVID-19 effect on the labor market and business

The Jordanian economy contracted by 1.5% during the first nine months of 2020. The impact of the shock on GDP remains relatively muted compared to peer countries. Despite this fact, COVID-19 has had a particularly devastating effect on the country's travel and tourism sector, which accounted for around 18% of GDP and of total employment in 2019¹² .

Prior to the year 2020, Jordanians did not think of any major disruption to their normal life and work behavior, but COVID-19 hit the world early 2020 and nothing seems to stay unchanged. Workers fought to keep their jobs and companies struggled to stay open for business. Schooling for almost all levels was performed virtually, and almost all face-to-face meetings were banned. Vocational training and education suffered the most, since no hands-on training was allowed. Building a skill is now much more difficult than it was before.

Most of us never thought of working from home as an effective way of doing business, but COVID-19 pandemic made it the norm for the majority of professionals. Adaptability is the key skill needed now, and new skills (soft and technical) are now needed because of the pandemic. Innovation, digitization, and technology have become major part of education and work processes at most organizations. The changes are taking place at a rapid pace that no one was ready for or even expected.

Lockdowns forced many business owners to lay off employees. Government officials worked hard to compensate those laid off and those who were still working, but the unemployment train has been faster and more powerful than these efforts. Business owners are now forced to work with

⁹Unemployment trends in Jordan; <https://www.menasp.com/en/opinion/the-employment-of-syrians-in-jordan-main-trends-and-challenges/>

¹⁰ Syrians unemployment in Jordan: https://www.ilo.org/wcmsp5/groups/public/--arabstates/--ro-beirut/documents/publication/wcms_364162.pdf

¹¹Ministry of Labor, 2018 report on Syrian refugees work in Jordan.

¹²The world bank report: Jordan's Economic Update — April 2021: <https://www.worldbank.org/en/country/jordan/publication/economic-update-april-2021>

a smaller workforce to produce the same, or even greater output. New skills are sought to compensate for the lack of workforce and to cope with the new requirements mandated by health authorities.

Social and economic life in Jordan is currently being determined by the coronavirus crisis. The vocational education and training system likewise face the challenge of having to react to the new prevailing conditions in a timely manner and of adjusting to the changed situation¹³.

Jordan faces a major unemployment crisis as we await the post-Covid recovery. This is mainly due to a lack of job creation during COVID-19 pandemic and to the lack competencies of workers. Also, the Jordanian workforce must face profound industrial changes emerging with digital transformations (Industry 4.0), sustainability, climate change and energy efficiency. To promote the growth of the employment and accelerate the recovery, we need to create a highly qualified and competent workforce that can handle the challenges of technological progress and global competitiveness. The precondition for success will be understanding the ever changing requirements for a competitive workforce.



¹³ <https://www.bibb.de/en/121454.php>



Research Objectives

This research will deliver a guide for job-readiness training and preparation programs, and so, the following objectives are sought:

- Select four manufacturing sectors to be targeted along with the logistics sector.
- In each sector, select four positions that require high-skilled candidates (if possible).
- For each position, create job analysis and highlight needed skills / competency, especially skills not well covered by current educational institutions. Skills highlighted may be technical or soft skills.
- Provide the necessary information to design job-readiness training programs for all jobs covered in the previous points.
- Highlight saturated jobs that should not be targeted by job seekers.
- Highlight male – female inequality in the job market and recommend actions to improve gender equality in the sectors under consideration.

The reason behind selecting four sectors and four positions in each sector is the fact that this project will be followed by a training project for 170 Syrian refugees and 80 underprivileged Jordanians. By selecting five sectors, it is reasonable to think that around 50 trainees will be assigned to each sector and if each sector is assigned three to four training sections, then each section will include around 15 trainees, which is an ideal number.

Research Scope

The Scope of this project covers manufacturing and logistics sectors doing business in Jordan. Within these companies, we have only targeted those companies willing to hire Syrian refugees and underprivileged Jordanians.

Research Methodology

This research is conducted by a consortium of partners: The German Jordanian University (GJU), LTUC, ACI and ACC. Each partner is set to have an active role throughout the research. The project consists of two main paths: desk research and field research. Output from each path is compared and integrated to produce sound findings and recommendations.

The first major task for the team is to decide which four manufacturing sectors to focus on. ACI and Jordan Chamber for Industry (JCI) has ten major manufacturing sectors as follows :

1. Wood and furniture industry sectors
2. Plastic and rubber industry sectors
3. Engineering, electrical and IT sectors
4. Chemical and beauty industry sectors
5. Healthcare industry sector
6. Garment industry sector
7. Food and Agriculture industry sectors
8. Packaging and office supplies industry sectors
9. Construction industry sectors
10. Mining sector

LTUC team held meetings with sector representatives and the manager of the industrial development depart at ACI to determine which sectors to be selected for this study. Selection criteria will be based the following:¹⁴

- The ability to have new vacancies in the next few months. The focus will be on jobs that require high-skilled candidates.
- Willingness of business owners and managers in the sector to cooperate in the investigative meetings and focus groups designed to highlight competencies needed and to help design future training programs.

Based on these meetings, ACI made it clear that almost all sectors laid off workers during the pandemic and should start hiring them back in the coming months. Those companies in each sector that have the most chance to hire new employees are those who have export capacity. We use an ACI report on exporting companies¹⁵ . Initial sectors considered for this research include:

1. Wood and furniture industry sectors
2. Engineering, electrical and IT sectors
3. Garment industry sectors
4. Plastic industry sector

¹⁴ <https://www.jci.org.jo/Chamber>

¹⁵ http://www.aci.org.jo/page/industrial_directory.aspx

The finalized list of interviewed companies was selected from the four sectors based on the criteria set. Individual candidate companies came for the lists provided by ACI, ACC and the logistics department at LTUC. Interviewed experts were selected based on recommendations from Technical and Vocational Skills Development (TVSD), ACI and employment hub at LTUC. Interviewed graduates were selected solely by LTUC employment hub.

Desk research utilized recent studies and information from the following resources:

- JCI, ACI and ACC
- National Center for Human resources development (NCHRD)¹⁶
- Department of statistics¹⁷
- TVSD Commission¹⁸
- Arab Labor Organization¹⁹
- International Labor Organization²⁰
- Published research by NGOs and international organizations working in Jordan
- And general published research articles

Field research is based on pre-set questions prepared for business owners and managers of the selected sectors in interviews or focus groups settings. 50 business owners and managers were interviewed in total. Interviews and focus groups took place at the facilities of the companies under consideration.

Another set of interviews was held with a set of experienced employees from the selected sectors to better understand the skills/competencies that they wish to see in new applicants. When an experienced employee was difficult to find, the interview was performed with experts in the field of each sector.

A third set of interviews was held with the beneficiaries (graduates) of EDU-SYRIA I+II, currently working in the selected sectors, to understand better the skills/competencies that they needed when starting their jobs. Interviews' questionnaires can be seen in appendix I, II and III. Interview questionnaires focus on needed soft skills and technical skills in the labor market. Skills that will help job seekers find jobs easier than others do.

Human resources participating in the field research are:

- ACI and ACC representative; helped in the selection of candidates
- Research consultant (Dr. Abdallah Abdallah)
- Employees from the project group and the employment group at LTUC
- Project manager from LTUC
- Two research assistants provided by LTUC

¹⁶ <http://www.nchrd.gov.jo/>

¹⁷ <http://dosweb.dos.gov.jo/>

¹⁸ <https://tvscd.gov.jo/>

¹⁹ <https://alolabor.org/>

²⁰ <https://www.ilo.org/global/lang-en/index.htm>

Once the interviews are concluded, analysis work starts, and a summary report is produced. This document includes all historical work, and the summary report which includes:

- Available jobs with a classification: entry level jobs, jobs that require high-skilled candidates, and saturated jobs.
- Expected number of each type of available jobs in the year ahead.
- Required skills / competencies and job analysis for each high skills jobs and some selected entry level jobs.
- Recommendations for future job-readiness training programs.

The project report reveals various aspect of gender inequality and recommend various actions to promote gender equality in the anticipated future jobs. Another important part of this report includes conclusions from both desk research and field research. In addition, it includes another main section concerning:

- Recommendations for the months ahead and for the training sessions.

Detailed project tasks are illustrated in Table 3 and the flowchart in Figure 3.

Table 2: Project tasks

Tasks	Duration	Due Date	Responsibility
Prepare project plans	One week	27th of June 2021	LTUC
Finalize interviews questions	One week	27th of June 2021	LTUC
Perform visits to JCI and TVSD (sectors)	4 weeks	27th of June 2021	LTUC
Sign agreement with JCI		24th of June 2021	JCI and LTUC
Perform interviews with employers	8 weeks	29th of August 2021	JCI and LTUC
Perform interviews with Current employees	8 weeks	29th of August 2021	LTUC
Perform Interviews with EDU-SYRIA graduates	2 weeks	29th of August 2021	LTUC
Perform desk research	4 weeks	1st of August 2021	LTUC
Perform interview analysis	1 week	8th of Sept 2021	JCI and LTUC
Document required skills and training needs	1 week	8th of Sept 2021	JCI and LTUC
Prepare final report	1 week	15th of Sept 2021	LTUC

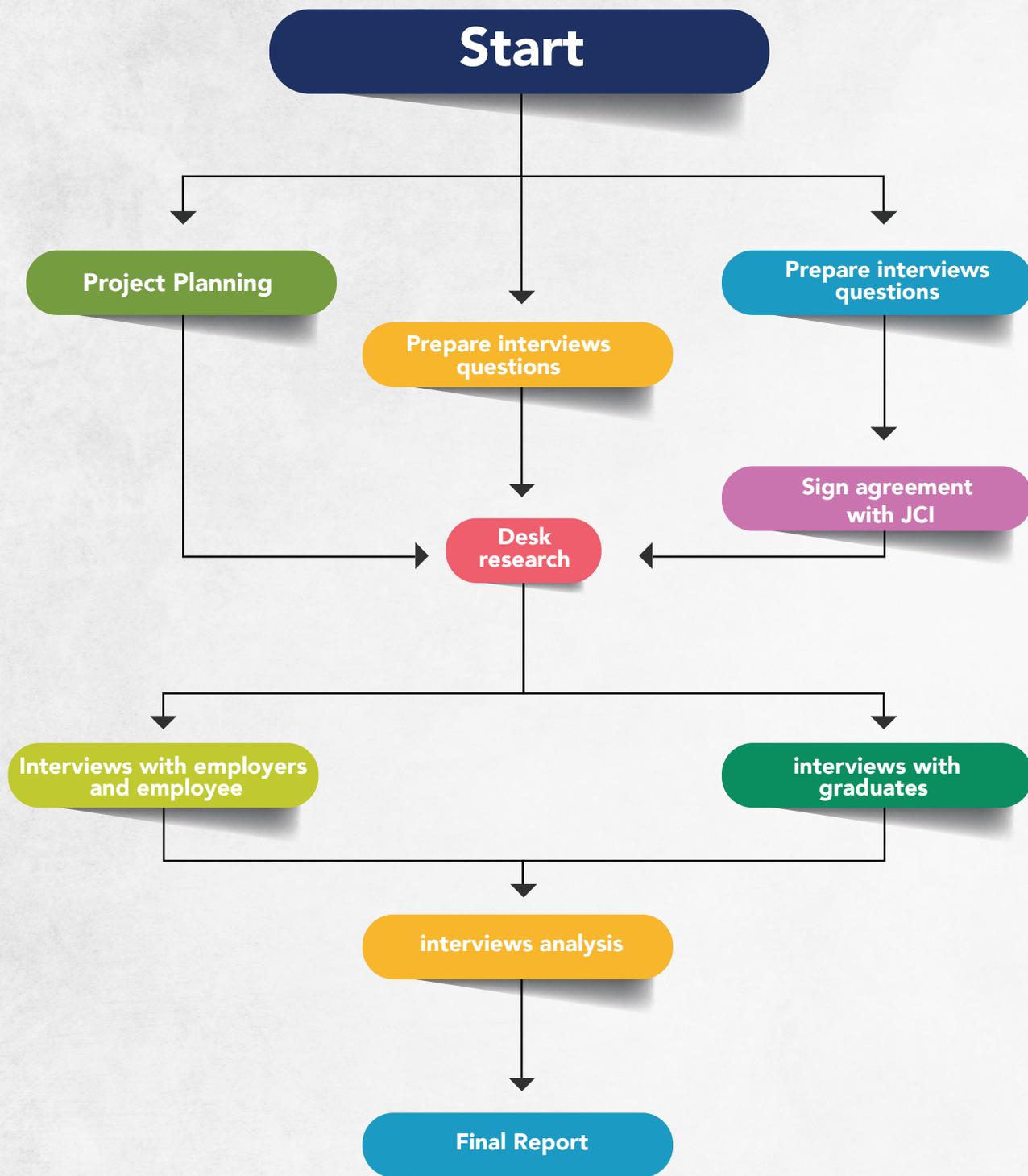


Figure 3: Flow chat of the project tasks

Project Risks and Mitigation

Just like any other project, this research project may encounter some challenges that may hinder its progress. Table 4 reveals the main expected risks and mitigation actions.

Table 3: Initial risk plan for the research project

Risk	Severity	Likelihood	Mitigation action
Not signing an agreement with JCI	Med to High	Med to High	Seek other sources such as TVSD, ACI, and ACC
Delays with JCI	Med to High	Med to High	
Employers reschedule interviews	Low	Medium	Schedule other employers
Employer resists field visit	Low	Medium	Schedule Zoom interview
JCI resources unavailable	Low to Med	Medium	Train and utilize LTUC employees
Interviewee refusing to be interviewed at a later stage	Med to High	Med to High	Prepare a large pool of interviewees and replace those who are refusing with new candidates
Initial project budget not sufficient	Low	Medium	LTUC will chip in with whatever extra fund needed

The impact of these anticipated risks may increase the duration of the project by up to 2 weeks. Lead researcher and project manager will communicate any incident when it occurs and, if needed, will call for an immediate meeting with GJU and LTUC management to create corrective actions. If other unanticipated events take place, the team will perform a full study of the situation and suggest corrective action. This, however, is not anticipated. The lead researcher and team leader will maintain a smooth and continuous flow of communication with all stakeholders to ensure all issues are tackled properly.

4.2 Project reporting

Once the team is fully established and the research assistants from JCI, ACI, ACC and LTUC are assigned, the following communication and reporting scheme will be established to ensure implementation effectiveness:

- 1- Daily communication between research assistants and lead researcher and the team manager to ensure all actions are effectively taking place on time.
- 2- Weekly report to LTUC and GJU summarizing all issues and status of all tasks.
- 3- Risk registrar will be established and updated weekly.
- 4- Any issue with medium to high impact to be reported immediately to GJU and LTUC.
- 5- Twice a month meeting between LTUC and GJU to update on status and any possible issue or corrective action. This meeting will also highlight all the finished steps and anticipated hurdles ahead.

Findings from the desk research

Many researchers have studied the economic situation in Jordan in the last few years, but the most fruitful studies are sector specific studies that have produced vacant positions forecasts. In the next section we shed light on the main sectorial studies performed recently.

Sectorial studies and findings

In 2020, ACI performed a study with 174 of its members to understand the number of vacancies expected in 2021 and 2022. Table 5 reveals that 634 manufacturing vacancies are expected to become available in the next two years. The real number of vacancies is expected to be much larger than 634 when we consider all sector members. ACI assesses that the real number will be close to 4000 manufacturing vacancies for the two years or 2000 vacancies for each year. It is also worth noticing from Table 5 that many of the listed vacancies are not entry level. They are rather jobs requiring a higher level of skill.



Table 4: Study performed by ACI on expected vacancies

No.	Vocational Program	No. of factories Surveyed	Expected vacancies
1	Operation of Industrial Machinery	41	214
2	Operation of Computer Numerical Control Machinery "CNC"	16	37
3	Mechanical Maintenance of Industrial Machinery	24	65
4	Electrical Maintenance of Industrial Machinery	24	43
5	Maintenance of Programmable Logic Controllers "PLC "	13	19
6	Maintenance of Hydraulic and pneumatic Systems	10	18
7	Metal Fabrication & Works	11	33
8	Aluminum Fabrication & Works	4	31
9	Welding	14	53
10	Carpentry	3	30
11	Paint of Furniture	5	28
12	Printing	6	37
13	Sewing	3	26

The Information and Communications Technology Association In Jordan- Int@J performed a study in 2018 that reveals segregation of Jordanian workforce working in the ICT sector as shown in Figure 4²¹. Many believe the distribution of future vacancies will follow the same percentages.

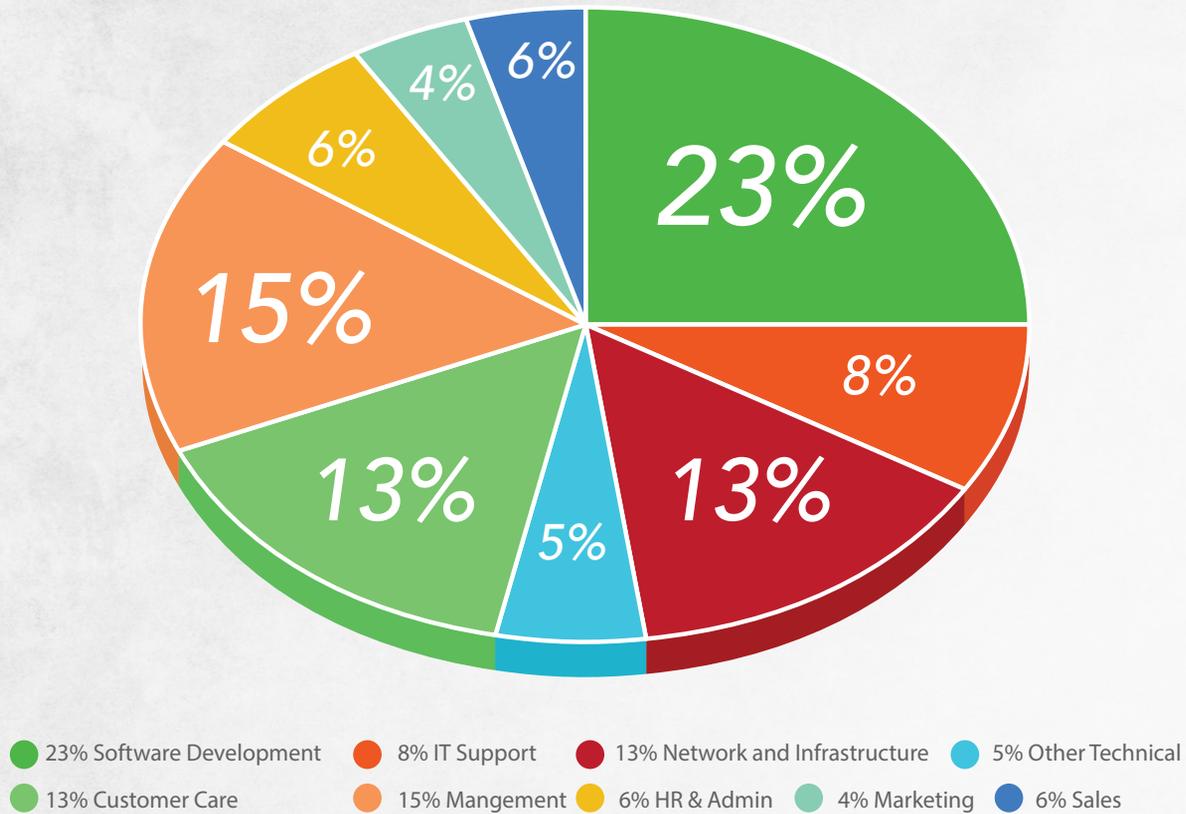


Figure 4: Employment percentage by function for the IT and ITES sector, 2018²¹

- Premiere, AUTODESK 3D Max, CCNA, Core solutions of Microsoft Exchange Servers, Fiber Communication, GSM, HTML5, CSS, Hyper-V in Windows Servers.
- Logistics sector: knowledge and application of public safety procedures and occupational health, the skills of selling and marketing, transport, and logistical services locally and internationally, identifying potential risks, required procedures and managing crises, and dealing/ shipping with hazardous materials.
- Tourism sector: preparing and issuing tickets using computers, knowledge of etiquette and customer service skills, knowledge of first aid, and kitchen operations management

In November 2020, EDU-SYRIA, and the Netherlands Universities Foundation for International Cooperation (NUFFIC) performed a study on obstacle facing employment and TVET skill building programs in Jordan²². One of their recommendations was that future TVET programs should not only

²¹Jordan ICT & ITES Sector Statistics 2018, Prepared By The Information And Communications Technology Association In Jordan- Int@J, 2018.

²²Assessment of higher education and labour market opportunities for underprivileged Jordanians and Syrian refugees in Jordan, Nov 2020, NUFFIC and EDU SYRIA report

focus on technical skills, but training curricula should be built around soft skills, interpersonal skills and English language in order to remove some of the obstacles facing job seekers.

A study on the textile industry revealed that females in this industry represent 55% of the work force, that future vacancies will be machine operators as a majority then technicians then supervisors. As for the skills need in the sector, it varies from sewing to machine operation, to problem solving and time management²³.

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) performed few studies on economic trends and unemployment trends in Jordan among Syrian refugees and underprivileged Jordanians. Studies were also performed across gender. In their 2017 on Jordan economic trend and unemployment they estimated the number of jobs to be created in Al Balqa governorate²⁴ to be 315 in 2017, and for the same year 847 for Irbid governorate and 45 vacancies for Karak governorate. More importantly, the report highlighted some of the important jobs and skills to be learned by job seekers in Balqa and Irbid governorates. Table 6 summarizes these job vacancies and skills.

The 2020 GIZ report has more current details about the employability of Syrian refugees and underprivileged unemployed Jordanians. The report was part of a research that aims at preparing 2000 Syrians and underprivileged Jordanians for the job market²⁵. The report expected that creation of new vacancies in the era post COVID-19 will have higher levels than the last reported by DOS in 2018 that is shown in Table 7²⁶. Table 7 reveals that job creation levels are high enough to easily handle all targeted Syrian refugees and underprivileged Jordanians.

Table 5: Important vacant jobs and skills in Balqa and Irbid governorates, 2017²⁵

Governorate	Sector	Vacancies	Technical skills	Soft skills
Balqa	Food industry	Production worker	Sanitary practices	Working under pressure
		Sales representative	Sales techniques	Working under pressure
Balqa	Restaurants	Supervisor	Food safety & Food service	Customer care
Balqa	Training and education	Hair dressing trainer	Cosmetics	Customer care & ToT
Balqa	Basic Education	Teacher	Teaching techniques	Childcare
			Supervision & Examination	Student activities and support
Balqa	Hospitality	Service personnel	Hospitality	Customer care
		Cook	Food preparation	Working under pressure
			Food safety	

²³Strengthening the export competitiveness of the Jordanian Textile and Clothing Sector, Diagnosis and Roadmap. Report prepared by MENATEX JORDAN, 2021.

²⁴GIZ report on economic trend in local Jordanian market, 2017

²⁵GIZ report: Skills needs analysis and mapping of private enterprises with employment and PPP potential, June 2020

²⁶Distribution of Persons Aged 15+ Years Who Joined of New Job or Left it and Net Jobs During The 2018 (DOS,2018)

Table 5: Important vacant jobs and skills in Balqa and Irbid governorates, 2017²⁵

Governorate	Sector	Vacancies	Technical skills	Soft skills
Irbid	Service	Technician		English and computing
Irbid	Training and education	Trainer	Media and advertising	Customer care
			Social media	Persuasion skills
			Oracle	Communication skills
Irbid	Basic Education	Teacher	Teaching techniques	Childcare
			Supervision & Examination	Student activities and support
Irbid	Logistics	Inspector		Computer and data entry

GIZ report on employability 2020 highlighted the following findings and gaps between labor market needs and TVET centers graduates' skills:

Beauty Sector:

Applicants lack the basic manicure and pedicure techniques. TVET centers should focus on such techniques.

Manufacturing Sectors in general:

The sector has great demand for machine operators and line supervisors. TVET centers should focus on work safety and machine operations, time management and production planning.

Table 6: Distribution of Persons Aged 15+ Years Who Joined a New Job or Left it and Net Jobs During 2018 (DOS,2018)

Table 6: Distribution of Persons Aged 15+ Years Who Joined a New Job or Left it and Net Jobs During 2018 (DOS,2018)

Governorate	Sector Vacancies	
	No.	%
Agriculture, forestry and fishing	2914	2.6
Mining and quarrying	598	0.5
Manufacturing	13364	12
Electricity, gas, steam and air conditioning supply	777	0.7
Water supply, sewerage, waste management and remediation activities	496	0.5
Construction	3150	2.9
Wholesale and retail trade; repair of motor vehicles and motorcycles	17680	16
Transportation and storage	5406	4.9
Accommodation and food service activities	10028	9.1
Information and communication	2298	2.1
Financial and insurance activities	2518	2.3
Real estate activities	287	0.3
Professional, scientific and technical activities	2491	2.3
Administrative and support service activities	3968	3.6
Public administration and defense; compulsory social security	15617	14
Education	14905	14
Human health and social work activities	6661	6
Arts, entertainment, and recreation	854	0.8
Other service activities	2568	2.3
Activities of households as employers; undifferentiated goods and services-producing activities of households for own use	1599	1.5
Total	110167	100

Food Manufacturing:

Similar to manufacturing sectors.

Chemical industry:

TVET centers should focus on quality control basis, sampling and warehouse operations.

Garment Industry:

This sector will be a great opportunity especially for female workers. TVET centers should focus on sewing techniques, quality control and machine operation.

Hygiene manufacturing:

Expected high job creation. TVET centers should focus on packaging principles, machine operation and sales.

Logistics:

Main expected vacancies are in food supply chains. TVET centers should focus on food processing, packaging, delivery and storing.

Restaurants:

This will be a booming sector after COVID-19 with vacancies including waiters, cooks, Shawarma cooks etc. TVET centers should focus on hospitality basics, customer care and food processing and cooking.

Telecom:

Mobile repair jobs. TVET centers should focus on mobile repairs techniques.

Tourism and hospitality:

In the next two years, more than 5000 vacancies are expected to open.

Finally, we highlight some of the labor market gap studies performed by NCHRD in Jordan. The gap study on the chemical, plastic and rubber industries, 2019²⁸ revealed that the main vacancies are expected to be machine operators and line supervisors. The main skills for TVET centers to focus on are safety in the work place, chemical manufacturing basics, machine calibrations and maintenance, and reading Material Specifications Data Sheets (MSDS).

The gap study on the ICT sector, 2018²⁹ revealed that this sector created 12,738 jobs in the years 2017 – 2019. The main vacancies were sales, call center operators, marketing, social media page management, programmers and database designer and developer. The main skills for TVET centers to focus on are: managing projects, internet programming, CCNA wireless, some electrical basics, electronics maintenance, Java and Oracle.

The gap study on the tourism and hospitality sector, 2018³⁰ revealed that this sector employs about 55 thousand, and even though it was hit the hardest during COVID-19. It is expected to bounce back strongly in the year 2022 and beyond. The main vacancies this sector has includes waiters, cooks, housekeepers, receptionists, and supervisors. The main skills for TVET centers to focus on include etiquette skills, customer care, computer skills, first aid basics, kitchen operations and food safety.

²⁸ The gap study on the chemical, Plastic and rubber industries, 2019: http://www.nchrd.gov.jo/assets/PDF/Studies/Sectoral/Gap_Study_Chemical_Ar.pdf

²⁹ The gap study on the ICT sector, 2018: http://www.nchrd.gov.jo/assets/PDF/Studies/Sectoral/Gap_Study_IT_Ar.pdf

³⁰ The gap study on the tourism and hospitality sector, 2018: http://www.nchrd.gov.jo/assets/PDF/Studies/Sectoral/Gap_Study_Tourism_Ar.pdf

Conclusions and recommendations from the desk research

For training and hiring 170 Syrian refugees and 80 underprivileged Jordanians looking for jobs, the desk research provides abundant evidence that the task is attainable. Furthermore, the desk research even provides a list of skills that training programs should focus on. Table 8 summarizes our findings from desk research only.

It is worthy to highlight the following:

- Table 8 represents estimations of available jobs that can be filled by Syrian refugees and underprivileged Jordanians in the next two years. These numbers are subject to major changes if COVID-19 pandemic worsened, or if any other predicament took place.
- Table 8 includes numbers that are based on desk research only. The numbers will be challenged and compared with estimates from field research and expert opinions before being finalized.
- The numbers in Table 8 are large enough to ensure project success. 170 Syrians and 80 underprivileged Jordanians should be easily trained and hired.
- Table 8 covers jobs that we may be interested in. At the time of finishing this research, the field research was not finished yet, and some changes may take place in the Table.
- The skills column in Table 8 will see major edit once the field research is concluded.
- Once Table 8 is edited by the field research, it will be a great tool for all training centers to update training curricula.
- Finally, Table 8 does not only include sectors within the scope of this project. It will be edited and changed to fit the scope precisely once the final report is prepared and the comparison is made with the field research findings.

Table 7: Expected number of vacancies for the next two years

Economic Activity	New Jobs No.	Expected vacancies	Skills to be trained on
Manufacturing	4511	Operation of Industrial Machinery	work safety and machine operations, time management quality control and production planning, basics of machines maintenance, and technical skills
	780	Operation of Computer Numerical Control Machinery	
	1370	Mechanical Maintenance of Industrial Machinery	
	906	Electrical Maintenance of Industrial Machinery	
	400	Maintenance of Programmable Logic Controllers "PLC "	
	379	Maintenance of Hydraulic and pneumatic Systems	
	696	Metal Fabrication & Works	
	653	Aluminum Fabrication & Works	
	1117	Welding	
	632	Carpentry	
	590	Paint of Furniture	
	780	Printing	
	548	Sewing	
Wholesale and retail trade; repair of motor vehicles and motorcycles	17680	Sales	Sales techniques, customer care skills, communications and interpersonal skills, and working under pressure
Logistics	2100	Warehouse worker	Packaging, delivery, sorting, safety procedures and occupational health, the skills of selling and marketing, transport and logistical services locally and internationally, identifying potential risks, required procedures and managing crises, and dealing/ shipping with hazardous materials.
	250	Driver	
	450	Administrative	
	1100	Customer care	

Economic Activity	New Jobs No.	Expected vacancies	Skills to be trained on
Hospitality	2650	Cooks	Food preparation, working under pressure, food safety, sanitation
	4500	Cleaners	Sanitation
	600	Greeters	Customer care, communications and interpersonal skills, and English Language
	450	Front Desk	
	330	Ticket issuer	
	1500	Salesmen	Sales techniques, working under pressure, English Language, Customer care skills, communications and interpersonal skills,
ICT	350	Customer care	customer service skills, communications and interpersonal skills, knowledge of programming and networking basics
	575	Software development: programming and networking	NET, JAVA Script, Oracle, Adobe illustrator, Adobe Premiere, AUTODESK 3D Max, CCNA, Core solutions of Microsoft Exchange Servers, Fiber Communication, GSM, HTML5, CSS, Hyper-V in Windows Servers
	230	Sales	knowledge of programming and networking basics, communications and interpersonal skills, customer care basics
	350	Supervisor	Problem solving, time management and team work, communications and interpersonal skills
	350	IT support	
Administrative and support service activities	3968	Admin officer	
Education and Training	7600	Cosmetics	Customer care, ToT, and technical skills
	6500	Media and Advertising	
	1550	IT education	
Total	66447		

Findings from the field research

Field research produced eye opening findings related to the TVET centers and graduates' skill and knowledge levels. This section will cover findings from businesses, experts, and graduate students. Job analysis examples of main jobs in each sector are also revealed.

Field research was conducted as a part of a research that included all working sectors in Jordan. 50 business managers, 12 experts and 16 graduates were interviewed. The findings from these interviews are summarized next.

A close-up photograph of a wooden joint, likely a mortise and tenon or a similar traditional joinery technique. The wood is light-colored with a visible grain. The joint is set against a dark background, possibly a workbench or a wall. The lighting is soft, highlighting the texture of the wood and the precision of the craftsmanship.

Manufacturing:

Wood and furniture sector

Manufacturing: Wood and furniture sector

COVID-19 Effects on the sector

- Downsizing the number of employees, buildings, and products.
- Total lockdown halted most of the import and export activities.
- Major drop in customer demand, in part due to difficulty of getting bank loans.
- Low mobility of employees and strict operation hours due to curfew

Workers' gender and nationality

- Syrians are welcome
- This sector hires mainly males.

Job Analysis: Main skills needed to perform Jobs in the sector

- Occupational Safety, Hygiene, Sanitation.
- Interpersonal and communication skills.
- Design with AutoCAD or similar software packages.
- Computer skills.
- Hand work.
- Wood painting and mixing.
- Upholstery work.
- Knowledge of dealing with electric and nonelectric machines.
- Quality and ISO 9001 knowledge.
- The ability to read blueprints and drawings

Expected vacancies in entry level jobs (per company)

- Machine operators: Conventional (Saws, electric saws, compressors) or Computerized (CNC, NC, punching machine). (1)
- Carpenter assistants. (2-5).
- Cladding technicians. (3-4).

The number between brackets represent expectations based on average expectations from interviewed managers, and these numbers are also in line with findings from desk research.

Expected vacancies in jobs that require high skills (one of each)

- Business administration managers.
- Manual drilling technicians.
- Wood carving technicians.

Difficult Jobs to fill

- Skilled designers.

Saturated Jobs

- Door installation.
- Wood paint technician.

Issues with applicants

- Lack of experience: low technical abilities.
- Lack the sense of loyalty.
- Lack of commitment.

What should TVET centers focus on?

- Career readiness skills.
- Interpersonal skills
- English language skills.
- CNC machinery trainings.
- Interior design:
(Auto-cad, Adobe acrobat, and drawing).
- Practical Training (Internship).
- Customs Clearance.
- Computer skills.
- Technical skill (Hand works).
- Industrial drawing.
- Interior design.
- Cladding.
- Wood painting.
- Incrustation.
- Upholstery.
- Wood carving.
- Use professional managers to give part
of the training.

Summary of Employee / Expert Interview

- Typically, those who work in this field are not educated. They lack etiquette and many personal skills. They also lack customer service skills.
- COVID-19 affected and slowed the market but we are now on a major rebound. Business is now booming.
- In Jordan, about 100 large companies and over 2500 small shops operate in this sector. These companies employ about 7000 employees (ACI sectorial records).

- Graduates only have the basics and lack most of the technical knowledge. This is not enough at all.
- Companies in this sector believe that trainers at TVET centers never worked as carpenters themselves, since many graduates have incorrect technical concepts. When trainers lack the field experience, they cannot produce graduates who are ready to work.
- Syrians can work in this sector and they are really liked.
- Great training should last for one to two years and should definitely utilize internship for a month to three months.
- Major issue with new employees is commitment and seriousness.
- Any number of graduates will find jobs: initially as trainees then employees.

Critical skills needed in the sector

- Technical skills
- Attitude and ownership of work are vital.
- Seriousness of employees.

Main future Jobs

- Carpenter (high paying) and carpenter assistant
- Painters
- CNC machine operators (High paying, in a very high demand)
- Assemblers

Manufacturing: Garment industries

COVID-19 Effects on the sector

- Lockdown, short working hours, fewer qualified workers available, laying off workers
- Need for health inspectors and safety personnel **Workers' gender and nationality**
- Syrians are welcome.
- Females work heavily in this sector.

Job Analysis: Main skills needed to perform Jobs in the sector

- Knitting, Sewing, Tailoring, Cutting, Ironing.
- Safety and personal hygiene.
- English language.
- Interpersonal skills.
- Excel.
- Problem solving skills.
- Customer service.

Expected vacancies in entry level jobs (Expected total of 1500 to 2000 in the next two years)

- Sewing staff (10 to 30 per facility).
- Receptionists.
- Call center.

The number between brackets represent expectations based on average expectations from interviewed managers, and these numbers are also in line with findings from desk research.

Expected vacancies in jobs that require high skills (Expected total of 50 to 100 in the next two years)

- Supervisors.
- Quality auditors.
- Cutters.
- Maintenance.

Difficult Jobs to fill

- Maintenance.
- Quality control.
- Cutters.

Saturated Jobs

- Scarification.
 - Clothing packaging.
- #### Issues with applicants
- Syrians are welcome.
 - Females work heavily in this sector

Saturated Jobs

- Scarification.
- Clothing packaging.

Issues with applicants

- Lack of experience: low technical abilities.
- Bad work attitude.
- Lack of commitment.

What should TVET centers focus on?

- Career readiness skills.
- Interpersonal skills
- Technical skill (hand works).
- Collaborate with the garment companies
- Use internships in the training programs
- Focus on attitude issues

Summary of Employee / Expert Interview

- This is one of the fragile sectors that needs lots of help from the government and TVET centers.
- Employers in this sector are one of the biggest employers of females and none Jordanians.
- Qualifying Industrial Zones (QIZ) employ lots of foreigners and will be open for Syrian refugees more than others.
- This sector includes Trico, leather, carpet, etc. Not only garment or clothing making.
- Machines used are not very expensive. They include knitters, sewing machines.
- Preciseness, quality, and speed are the most important factors for technician working in this sector.
- Tens of thousands are employed in thousands of factories that vary in size.
- COVID-19 destroyed small shops and closed some large ones, however, after COVID-19, the market is slowly returning to normal.
- Most workers in the industry are machine workers. The remaining workers in the industry are working based on experience, not based on education and training.
- Computer skills and English language skills are a must, nowadays.
- Supervisors and managers are very educated.

Critical skills needed in the sector

- Machine maintenance
- Design using computer
- Knitting
- Multi-tasking employees
- Computer skills in general

Manufacturing:

Garment industries



Manufacturing: Garment industries

COVID-19 Effects on the sector

- Lockdown, short working hours, fewer qualified workers available, laying off workers
- Need for health inspectors and safety personnel

Workers' gender and nationality

- Syrians are welcome.
- Females work heavily in this sector.

Job Analysis: Main skills needed to perform Jobs in the sector

- Knitting, Sewing, Tailoring, Cutting, Ironing.
- Safety and personal hygiene.
- English language.
- Interpersonal skills.
- Excel.
- Problem solving skills.
- Customer service.

Expected vacancies in entry level jobs (Expected total of 35 per company in the next two years)

- Sewing staff (10 to 30 per facility).
- Receptionists.
- Call center.

The number between brackets represent expectations based on average expectations from interviewed managers, and these numbers are also in line with findings from desk research.

Expected vacancies in jobs that require high skills (Expected total of 10 per company in the next two years)

- Supervisors.
- Quality auditors.
- Cutters.
- Maintenance.

Difficult Jobs to fill

- Maintenance.
- Quality control.
- Cutters. **Saturated Jobs**
- Scarification.
- Clothing packaging.

Issues with applicants

- Lack of experience: low technical abilities.
- Bad work attitude.
- Lack of commitment.

What should TVET centers focus on?

- Career readiness skills.
- Interpersonal skills
- Technical skill (hand works).
- Collaborate with the garment companies
- Use internships in the training programs
- Focus on attitude issues.

Summary of Employee / Expert Interview

- This is one of the fragile sectors that needs lots of help from the government and TVET centers.
- Employers in this sector are one of the biggest employers of females and none Jordanians.
- Qualifying Industrial Zones (QIZ) employ lots of foreigners and will be open for Syrian refugees more than others.
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- COVID-19 destroyed small shops and closed some large ones, however, after COVID-19, the market is slowly returning to normal.
- Most workers in the industry are machine workers. The remaining workers in the industry are working based on experience, not based on education and training.
- Computer skills and English language skills are a must, nowadays.
- Supervisors and managers are very educated.

Critical skills needed in the sector

- Machine maintenance
- Design using computer
- Knitting
- Multi-tasking employees
- Computer skills in general
- Supervisory skills
- Marketing skills

Main future Jobs

- All garment skills
- Quality control

Manufacturing:

Plastic industries



Manufacturing: Plastic industries

COVID-19 Effects on the sector

- Some companies were affected positively (food and medical related industries), while others were affected negatively.
- Decreased demand from customers for most of the industry.
- Strict defense regulations, closures, and curfew hours.
- Low mobility of employees.

Workers' gender and nationality

- Syrians are very welcome. Owners of some companies are Syrians.
- Females are present in moderate numbers in this sector.

Job Analysis: Main skills needed to perform Jobs in the sector

- Occupational Safety, Hygiene, Sanitation
- Machine operation knowledge.
- Time management.
- Plastic extrusion and injection skills.
- Interpersonal and communication skills.
- Supply chain management knowledge.
- Packaging skills.
- Quality and ISO 9001 knowledge.

Expected vacancies in entry level jobs (Expected total of 35 per company in the next two years)

- Loading and unloading staff. (Up to 20).
- Production staff. (Up to 15).
- Housekeeping staff.

The number between brackets represent expectations based on average expectations from interviewed managers, and these numbers are also in line with findings from desk research.

Expected vacancies in jobs that require high skills (Expected total of 10 per company in the next two years)

- Warehouse keepers.
- Counter sales.
- Overseas sales.
- Quality auditors.
- Machine maintenance.
- Plastic extrusion technicians.
- Plastic injection technicians.

Difficult Jobs to fill

- Plastic extrusion technicians.
- Plastic injection technicians.

Saturated Jobs

- Accountants.
- Marketing.
- Drivers.
- Safety and security.

Issues with applicants

- Lack of experience: low technical abilities.
- Bad work attitude.
- Lack of commitment.

What should TVET centers focus on?

- Career readiness skills.
- Interpersonal skills.
- Practical Training (Intensive).
- Technical skill (Plastic Extrusion).
- Robotics training.
- Use professional managers to give part of the training.
- Make training a little longer

Summary of Employee / Expert Interview

- Typically, those who are trying to work in this field are not technically equipped.
- COVID-19 affected the industry because of shipping issues, costs, shutdowns, etc. Some raw material such as PVC comes from SA or USA, which made it very expensive and interrupted shipments.
- Jordan has about 260 large company shops employing over 9000 people. There are more than 800 small shops operating in Jordan (ACI sectorial records).
- This sector will hire any experienced technician.
- There is major lack of professionals especially production line technician.
- Some factories are owned by Syrians and Syrian workers, in general, are very welcome.
- Currently, no TVET center is helping this sector. Training programs do not cover specific plastic skill.
- Graduates only have machine operation skills but no plastics knowledge. This is not enough at all.
- Any training center focusing on this sector will have high employability of its graduates.
- Any number of graduates will find jobs: initially as trainees then employees.

Critical skills needed in the sector

- Blowing
- Mixing
- Extrusion
- Molding
- Palletizing
- Teamwork
- Seriousness of employees

Main future Jobs

- Production line operator (High pay)
- Blowing specialist (High pay)
- Mixing specialist (High pay)
- Extrusion specialist (High pay)
- Molding specialist (High pay)
- Palletizing specialist (High pay)
- Loading workers

Manufacturing: Engineering industries



Manufacturing: Engineering Industries

This sector includes many industries, but for the two with the highest employability forecasts are the Jewelry industry and Heating, Ventilation and Air Conditioning industry (HVAC) centers.

COVID-19 Effects on the sector

- Lockdown, less customers, more focus on hygiene actions.
- Almost 100 % sales halt.

Workers' gender and nationality

- Syrians are very welcome. Most of them work in this sector without permits.
- Females are welcome in this sector, but they do not apply.

Job Analysis: Main skills needed to perform Jobs in the sector

- Digital marketing.
- Social Media.
- Patience and decency when selling in stores.
- Welding skills.
- Goldsmithing in general.
- Customer service.
- English language skills.
- Honesty and integrity.
- Interpersonal and communication skills.
- 3D designing and creativity skills.
- Polishing – fusing - and finishing skills.
- Gemstone installation.
- General safety techniques.
- Using tools and kits.
- Knowledge of electrical machines.
- Attention to details.
- Flexibility.
- HVAC in general.

Expected vacancies in entry level jobs (Expected total of 5 per company in the next two years)

- Goldsmith assistants.
- Handy workers.
- Gold interlacing staff
- Engraving staff
- Gold smiths (18 Karat gold)
- Sales staff.
- Loading and unloading staff.
- Delivery staff.
- HVAC technicians.

Expected vacancies in jobs that require high skills (Expected total of 2 per company in the next two years)

- Designers.
- Zirconium fitting workers.
- Diamond stone Assemblers.
- Finishing staff.
- Supervisor

The number between brackets represent expectations based on average expectations from interviewed managers, and these numbers are also in line with findings from desk research.

Difficult Jobs to fill

- Central HVAC technician
 - Laser machinery technicians
 - Gemstone installation position
- Saturated Jobs
- Administrative jobs.

Issues with applicants

- Lack of commitment.
- Lack of technical skills.
- Dealing with computer software.
- Customer care skills.

What should TVET centers focus on?

- Field trainings to build the capacity and experience.
- Welding skills.
- Goldsmithing in general.
- Customer service.
- English language skills.
- Interpersonal and communication skills.
- 3D designing skills.
- Polishing and finishing skills.
- Gemstone installation and assembly.
- Electrical skills.
- Central HVAC.
- VRF and VRV systems
- Central HVAC maintenance skills.
- Ensure that trainers have sales experience

Summary of Employee / Expert Interview

- This is one of the unluckiest sectors when it comes to an experienced work force.
- Syrian refugees are currently working in this area either as freelancers or not in a fully illegal manner (no work permits).
- Health inspectors intensified their visits during the past year.
- Spacing and a smaller number of workers made it difficult to operate smoothly.
- Most those apply to work in factories are either for general labor or for administrative jobs. Both are saturated.
- Some of the very welcome applicants include:
 - Maintenance: Electrical or mechanical or both
 - Specialists: welding, HVAC, Electrical wiring, etc.
 - Experienced shop supervisors
 - Any technician with English language, engineering drawings skills and computer skills is in high demand.
- Innovative thinking is a big plus.
- Loyalty and ownership of work is a scare commodity nowadays. Those who have it are long term winners.

Critical skills needed in the sector

- Maintenance.
- Reading engineering drawings.
- Welding.
- Machining.
- Metal works.
- Assembly skills.
- Handling tools.
- English language.
- Computer skills.

A woman wearing a white hard hat and a yellow safety vest over a blue shirt is looking at a tablet computer. She is standing in a warehouse or industrial setting with shelves and boxes in the background. The lighting is warm and focused on her.

Logistics sector

Logistics sector

COVID-19 Effects on the sector

- Mixed effect: some companies closed and some were restricted to certain hours, while some thrived.
- Low mobility of employees had negative effects on the sector.
- Drop shipping' became the skill to master efficiently.

Workers' gender and nationality

- Syrians are very welcome.
- Females are welcome in this sector, but they do not apply.

Job Analysis: Main skills needed to perform Jobs in the sector

- Occupational Safety, Hygiene, Sanitation.
- Interpersonal and communication skills.
- Customer service.
- English language.
- Computer skills: Excel.
- Freelance logistics services.
- Warehouse stacking, pulling, put away, etc.
- Flexibility

Expected vacancies in entry level jobs (Expected total of 30 per company in the next two years)

- Loading and unloading staff. (10 per company).
- Team members. (upto 20 per company).
- Forklift drivers. (3 per company).
- Packers. (Up to 10 per company).
- Data Entry. (Up to 3 per company).

Expected vacancies in jobs that require high skills (Expected total of 3 per company in the next two years)

- Team leaders.
- Supervisors.
- General maintenance technicians.
- Drop Shippers
- The number between brackets represent expectations based on average expectations from interviewed managers, and these numbers are also in line with findings from desk research.

Difficult Jobs to fill

- General maintenance technicians.
- HVAC technicians.
- Ammonia refrigeration maintenance technicians.

Saturated Jobs

- Warehouse guards.
- Workers (Loading and unloading).

Issues with applicants

- Lack of experience.
- Lack of Logistics skills.
- English language.
- Dealing with refrigeration issues.

What should TVET centers focus on?

- Career readiness skills.
- English language skills.
- Excel.
- Quality management systems - Auditing.
- Customer service.
- Practical training on receiving, put away, pulling and shipping skills.
- Focus on drop shipping.
- Show student how to be freelancers.
- Must add Internship over a month for every student.
- Use professional managers to give part of the training.

Summary of Employee / Expert Interview

- This sector has very high potential for qualified graduates.
- Any good diploma graduate will be accepted by the industry.
- Most of those who are working in the industry are not qualified.
- The basic knowledge is much appreciated: Picking, pick list, shipping, etc.
- Typically, ill morals and lack of commitment have been a major problem.
- Pure logistics companies are less than 100, however, the companies that needs logistics activities in a major manner are in the thousands.
- Many logistics companies suffer, and many companies closed, even though the need for such services is high.
- Only few TVET centers train in the area of logistics.
- Interns are welcome by almost all logistics companies.
- COVID-19 provided more need for logistics sector even though it revealed many of the weaknesses of the sector and lack of readiness.
- Trainers lack the field experience and so they cannot produce graduates who are ready to work. Logistics companies, however welcome almost all graduates.
- Most those applying for jobs do not have the basic knowledge: WMS. ERP systems, service levels, lead time concepts, etc. (technical issues).
- Other issues to focus on are problem solving and customer service.
- New hires typically have long learning curve.
- Syrian refugees are found in low-level jobs typically (general labor). They are in demand. Most Syrians work as freelancers and paid daily wages.

Critical skills needed in the sector

- English language.
- Computer skills.
- Logistics technical skills.
- Customer service, problem solving.
- Attitude and ownership of work are vital.
- Safety and health

Main future Jobs

- Warehouse operator: picker or dispatcher.
- Storekeeper.
- Warehouse manager.
- Forklift driver. (Narrow isle truck drivers and reach truck drivers are well paid).

Graduates' interviews

The project team met with 16 LTUC graduates in the field of research interest. The group consisted of 8 males and 8 females. Six graduates were Syrian refugees. The meeting took one full day and was divided into three activities: individual interviews, focus group meeting and a conclusion meeting. Graduates agreed with almost all comments from businesses and matter experts, but they also had more detailed comments that is illustrated as follows:

- New skills are now required in the labor market for all technical jobs; a carpenter must know computer skills and AutoCAD. Maintenance technician must be able read blueprints, and every technician must have good command of English language.
- Soft skills, interpersonal skills and problem-solving skills are more important than ever before.
- Ability to work from home by using a computer is now a requirement for many positions.
- Certain personal skills need to be addressed in more effective ways, including self-confidence, time management, adaptability, and flexibility.
- Experience is just as importance as skill and knowledge. Experience makes good technician, excellent.
- Most technical fields are evolving, and vocational training needs to keep up with changes.
- Vocational training during COVID-19 was mainly performed online. Vocational training should never be done online.
- Practical training and internships are a must in every vocational training.
- Graduates do not know how to use the skills. They were given theoretical training but have not transferred these skills into practice.
- A big gap is felt by graduates when they apply for jobs in the market. What they learn is not the same as what is required.
- Training and diplomas should include a part teaching student how to master interviews.
- TVET centers do not perform follow up with graduates after they do graduate.
- Duration of training is short. Duration of practical training is very short. As a result, graduates feel they are not ready when training finishes.

Conclusions and recommendations from the field research

From the three arms of field research, the following can be concluded:

- Training alone cannot prepare a person to take on a job with high skills. Training and experience can. Training can only put candidates on the first step of the road.
- Some jobs require specialists (such as garment cutting) and some require generalists (such as maintenance). For specialists, training programs should focus on the needed skills and give a general idea about the relevant skills. For generalists, training program should cover all relevant skills.
- Jobs that require specialization are typically high paying jobs.
- Most current training and education programs have life skills as part of the curricula.

Graduates, however, lack most of these skills, no problem-solving abilities, no customer care skills, or teamwork, etc. To tackle this issue, training programs should intensively use role-play, situational analysis, video cases, etc. to highlight such skills.

- What most TVET graduates lack is the feel of belonging, seriousness to the job and loyalty to the place of work. These must become a focus of all TVET programs.
- Most interviewed experts and HR managers revealed that only basic technical skills are seen in TVET graduates. Companies train graduates most needed technical skills on the job. This is not an ideal situation, and to resolve it, many solutions can be used:
 - Ensure that trainers do have real life experience in the field of training topic.
 - Invite managers working in companies related to the training topic to give part of the training or all of it. Most interviewed managers welcomed the idea.
 - Include paid internships. This must last for more than one month. The longer it is, the more it helps especially with jobs that have high skills. Many interviewed experts suggested that internship should last at least 25% of the training duration.
- Most interviewed managers felt that TVET centers have poor relationships with the industry. Employment departments and industrial link departments should do more intensive job in getting to know companies' needs on continuous bases.
- All TVET centers should consider seriously adding new training programs to follow market needs: for examples CNC operators (wood industry), Jewelry maintenance (Engineering industries) and ERP systems (Logistics).
- When vocational training is provided online (COVID-19 time), graduates learn very little.
- Practical projects must be included in training. These projects must come from actual cases in the field.
- The involvement of females is very low. More work needs to take place to encourage females on fields typically occupied by males. One of the companies in the engineering industry sector revealed a success story of female welders. Female welders in this company outperform males.
- Tracer studies should be emphasized. Graduates complain about the lack of communication efforts from TVET centers after graduation.

Discussion

The research was set out to study the gap between what TVET centers prepares graduates to do and what the labor market needs them to do. It is quite clear that the gap is big. On the technical side, TVET centers seem to be delivering the basic skills only, which leaves businesses with job applicants in need of intensive training before they become productive. On the soft skills side, TVET centers do a poor job in preparing graduates for issues they tackle once on the job. In their defense, TVET centers assure that training material covers all needed technical skills, and life skills including interpersonal skills and problem-solving skills.

This contradiction can be investigated, but the bottom line is that businesses are not getting the skills and attitude they are looking for in new hires. The entire content and delivery of training courses must be reviewed and reconstructed so that graduates possess needed skills and attitude.

Most interviewed professionals revealed that English language and computer skills are now main requirements for many professions. This may make it difficult for many applicants to qualify for posted jobs. It also necessitates screening candidates prior to committing to training programs.

The percentage of female applicants is very low. Most jobs do not require heavy lifting or masculine work, yet these positions are dominated by male applicants. Some human resources managers assured that many of these tasks can be performed well by females. Welding, woodwork, assembly, and many other jobs can be performed by females. To address such issue and make a difference in it, counseling of female students can be used for applicants before the training starts.

When it comes to Syrian refugees, regulations restrict the jobs they can occupy for. Many businesses like to hire Syrians for their well-behaved manners and skillful workers. As a result, many Syrians are working in Jordan without work permits. In 2015, it was estimated that 200,000 Syrians work illegally in Jordan . In 2018, the higher population council published a study about Syrian refugee which estimated that 61.5% of Syrians in Jordan work without a work permit. The same study estimated that since 2011, 40% of Syrians working in Jordan as skilled labor gained their skills through training . The two studies reveal that TVET center can help even more Syrian refugees than shown in official statistics. They also show that vocational training can be effective.

Regarding the nature of training programs currently provided at TVET centers, each center offers number of programs they are equipped to provide. These programs are not necessarily what the labor market is look for. As a result, some industries are left without any support from TVET centers, such as the plastic and logistics sectors. These sectors have good ability to hire qualified graduated in the next two years. Training centers must consider new programs that fulfil market needs.

Conclusions and future Steps: Building successful short term, job readiness training programs

This research, revealed two facts: the first one is that training alone is not enough, practical experience through internship is needed. The second is that TVET training centers need to put more serious efforts in getting in touch with graduates and the industry. So, the whole point of this research is to enhance our abilities to make TVET graduates employable.

It does not matter if any TVET centers has great facilities and great trainers if the graduates are not employable.

To train 170 Syrian refugees and 80 underprivileged Jordanians and make them employable as part of EDU-SYRIA III project, the task is not very difficult. Desk research and field research showed that Jordanian market can easily employ this number if, and only if, the graduates are considered qualified. So, our job is to do what it takes to ensure TVET graduates become qualified.

In this section we propose few suggestions for TVET centers like LTUC to ensure successful training and employment of Syrian refugees and underprivileged Jordanians.

³¹ The Jordan times report on Syrian labor in Jordan(June, 2015): <http://www.jordantimes.com/news/local/around-200000-syrians-illegally-work-jordan-%E2%80%94-ministry>

³² The higher population Council – Jordan study on Syrian labor in Jordan (2018): <https://www.hpc.org.jo/sites/default/files/Study-Population%20Characteristics%20of%20Syrians-AR.pdf>

Suggested actions before training sessions start

Before the training starts the following actions are suggested:

- **Screening candidate trainees:**

Since many jobs require good command of English language and computer skills, it is a good idea to have a placement test or an interview for each candidate to see his or her skill level in the following:

- o English language
- o Microsoft Office
- o AutoCAD or any drawing software
- o Reading engineering drawings or blueprints.
- o Any computer language

Based on the interview we can guide all candidates for the training that suit them the best.

- **Counseling of female candidates:**

Most available positions are typically filled by males. Many business owners declared that when using females in many positions, typically filled by males, they tend to perform great. Councilors need to urge all female candidates to consider any position that she can perform.

- **Counseling all candidates to balance their abilities/likes with market needs:**

Many candidates insist on certain fields and refuse to consider other fields. As this research showed, some nontraditional jobs may have more employability, such as jewelry crafting and maintenance.

So, counselors must sit with each candidate, understand their abilities and hobbies, then reveal market needs to them, then come together to a decision on the best training program for each candidate.

This screening process ensures high success of graduates and instils passion and pride in the technical work.

- **Selecting and preparing trainers:**

Even though, all TVET centers claim they employ the best trainers in the field, research shows that there is a big room for improvement in trainers' ability to prepare employable graduates. The following assessment needs to be made:

- o Does the trainer have at least 3 years field experience in the field he is training for?
- o Did the trainer hold this training before? Did he get an evaluation score more than 80% each time?
- o Did the trainer ever attend a ToT session before?
- o Does the trainer use many training styles in his training including: role play, situation analysis, videos, supervising hand work by trainees, etc.?

If the answer is "no" to any of the questions listed, then the following actions are recommended:

- o Get new more qualified trainers.
- o Hold frequent random evaluations with trainees during training sessions and inform the trainer with the feedback to enhance his delivery.
- o Solicit a field experienced professional, as a guest, to deliver part of training session or a full training session, and have the trainer sit for these sessions. This action of blending trainers has great effect on enhancing trainer's skills.

Performing one or more of these suggested actions will help improve training sessions.

Suggested actions during training sessions

Once trainees and trainers are screened, the design and implementation of training programs is recommended to take place per the following guidelines:

- o Regardless of the training topic, the following must be covered:
 - communication skills,
 - dealing with the customer,
 - problem solving skills,
 - interpersonal skills,
 - the meaning and benefits of work ownership and the pride of work,
 - report writing skills.

These skills cannot be taught in a typical manner rather, they need to be taught using role play, situation analysis, and videos.

- o Every training program must include an internship. One business manager suggested that at least 25% of the duration of training programs need to be spent in an internship. Trainers are urged to spend the time with trainees in the factories or place of internship.
- o Perform pre and post tests for every training topic. Regardless of their grades in the pretest, the post-test grades should reflect how successful the program was. Pre and post-test should have the same content.
- o Perform many random verbal evaluations during training programs. In these evaluations, trainees are asked about their opinion in the training pace, the trainer ability to deliver the course, and any general comments geared toward improving the program. These evaluations must be discussed with trainer to continuously improve his tactics.
- o Consider employing experienced professionals to deliver part of the training or all of it. Many interviewed managers welcomed the idea.
- o Make sure the time allowed for training is sufficient. Interviewed graduates complained that time allowed for training was short. Business managers complained that internships offered were too short. Pace the training well and ensure every topic and subtopic is covered in a thorough manner. Proper screening of trainees and trainers will help.
- o And finally ensure to consult with an expert technician or manager in the training field to ensure all needed skills are covered in training.

Suggested actions after the training sessions end

- o Perform full training evaluation of the trainer, training facility and training method. This evaluation is performed by trainees.
- o Perform full training evaluation of trainees. This evaluation is performed by the

trainer.

- o Ensure that all trainees prepare a CV. Review the CV for completeness.
- o Help graduates get a job. Start by soliciting the company where they performed their internship, then move to the list of companies in Appendix IV or any company you feel will welcome new hires.
- o Start a tracer study for all trainees. Keep track of graduates for at least six months after graduation.

Coordination between departments at the TVET center

For TVET centers to be successful in delivering TVET programs, efforts of all departments need to be harmonized. Three main departments are involved in making these training programs:

- i. Project management department: responsible for the whole program from idea creation to project closing phase.
- ii. Employment department: responsible for the connection with the industry, internship placement and employment after graduation.
- iii. The academic department: responsible for delivery of training.

During the field research, it was mentioned in various meetings that these departments currently work in a fragmented manner, and so, academic department does not get useful input from employment department, and never have information toward updating or changing current training programs. Each department has a role that complements the role of the other departments. High level of coordination is vital.

Labor market research as a continuous activity at the TVET centers

TVET centers perform different types of training programs to provide the market with skillful graduates ready for effective employment. Without a research project such as this one, TVET centers can only assume market needs.

Since market needs change over time and skills needed for technical jobs also change over time, labor market research is needed continuously. We recommend that it is performed under the umbrella of the employment department at the TVET center. We also recommend the following guidelines:

- o Employment department to employ a researcher responsible for desk research. This does not have to be a full-time job; it can be performed by one of the academic members of the TVET center.
- o Employment department to employ at least two members responsible for field research like the one performed in this project.
- o On continuous bases the employment department either visits or makes phone calls to various companies for the sake of collecting data on graduates and training outcomes.
- o The activities above need to be performed for all sectors, not just manufacturing and logistics.
- o The employment department needs to meet regularly with the academic department and the project management department to convey findings of the continuous research.
- o The employment department needs to keep a database of employers to keep referring graduates toward proper employment. An initial set of employers can be seen in Appendix IV.

Training programs to be performed with the industry

Some managers and experts interviewed in this project revealed a desire to cooperate with TVET centers in delivering training programs. On the other hand, some of the suggested training programs detailed in Section 9.0 are new and may require high investment in preparing labs and equipment.

We recommend reaching out to key companies to build collaboration in some future training programs. The whole initiatives can be facilitated by TVSD, ACI or ACC. To illustrate, let us take the plastic industry as an example, if LTUC likes to prepare graduates to work in this sector they can offer mechanical or electrical machines maintenance programs at LTUC facilities. However, if LTUC would like to offer a specialized training in molding techniques, then TVSD can be contacted, and the plastic industry member at TVSD can arrange for a meeting with LTUC and management of key plastic producer in Jordan. As a result of the meeting, the theoretical training part can take place at LTUC, but the practical part takes place in the factory. When this is followed by an internship, the program becomes very effective in preparing graduates for employment.

Engaging females more

The percentage of female applicants is very low. Most jobs do not require heavy lifting or masculine work, yet these positions are dominated by male applicants. Some human resources managers assured that many of these tasks can be carried out by females. Welding, woodwork, assembly, and many other jobs can be performed by females. To address such issue and make a difference in it, counseling of female students can be used for applicants before the training starts. Outreach activities and working with Community Based Organizations (CBOs) may also have an effective part in the female engagement and empowerment to ensure more gender equality. TVET centers must enhance the curricula of each training program with messages encouraging females to go further, to do more and to tackle careers typically dominated by males.

Suggested training programs for EDU-SYRIA III candidates

5.1 Manufacturing: Wood and furniture sector

Suggested training programs should follow the guideline described in Section 8.1 thru 8.3. Each training program should be designed as per industry standards. In addition, the following are key items to be taken in consideration when designing and implementing each program.

The names of training programs are just suggested names. TVET centers may have different name with similar content.

9.1.1 Carpentry training:

- o This training prepares graduates to become carpenters or carpenter assistants
- o Wood basic knowledge must be covered
- o Training must cover all carpentry machines and operations
- o Most of the training needs to be practical. Trainees will use tools and machines under trainer supervision.
- o 25% of training time internship in a furniture company.

9.1.2 CNC operator training:

- o This training prepares graduates to become CNC machine operator
- o Wood basic knowledge must be covered
- o Training must cover all carpentry machines and operations
- o AutoCAD basic skills should be taught
- o Instructions on CNC programming basics
- o Instructions on how to read industrial drawing
- o 25% of training time internship in a furniture company.

9.1.3 Cladding training:

- o This training prepares graduates to become cladding technicians
- o Wood basic knowledge must be covered
- o Training must cover all carpentry machines and operations
- o AutoCAD basic skills should be taught
- o Instructions on wood painting basics
- o Instructions on cladding principles.
- o 25% of training time internship in a furniture company.

9.1.4 Wood artwork training:

- o This training prepares graduates to become cladding technicians
- o Wood basic knowledge must be covered
- o Training must cover all carpentry machines and operations
- o AutoCAD basic skills should be taught
- o Instructions on basic wood carving techniques
- o Instructions on basic interior design
- o Instructions on wood painting basics
- o 25% of training time internship in furniture company

5.2 Manufacturing: Garment industries

Suggested training programs should follow the guideline described in Section 8.1 thru 8.3. Each training program should be designed per the industry standards. In addition, the following are key items to be taken in consideration when designing and implementing each program.

The names of training programs are just suggested names. TVET centers may have different name with similar content.

9.2.1 Sewing training:

- o This training prepares graduates to become sewing technicians
- o Fabric basic knowledge must be covered
- o Training must cover all machines used such as sewers, knitters, cutting tools, ironing machines etc.
- o Computer design basic skills should be taught
- o Instructions on clothing styles and design
- o 25% of training time internship in garment company

9.2.2 Fabric cutting training:

- o This training prepares graduates to become cutting technicians
- o Fabric basic knowledge must be covered
- o Training must cover all machines used such as sewers, knitters, cutting tools, ironing machines etc.
- o Computer design basic skills should be taught
- o Instructions on clothing styles and design
- o Instruction on cutting techniques should be emphasized
- o Cost issues and optimization of material should be emphasized
- o 25% of training time internship in a garment company

9.2.3 Machine operator and maintenance training:

- o This training prepares graduates to become operators and maintenance technicians
- o Fabric basic knowledge must be covered
- o Training must cover all machines used such as sewers, knitters, cutting tools, ironing machines etc.
- o Training must cover mechanical machines basics
- o Training must cover electrical machines operations basics
- o Training must cover safety basics
- o 25% of training time internship in a garment company

9.2.4 Production line supervisor and quality auditing training:

- o This training prepares graduates to become quality auditors and production line technicians
- o Fabric basic knowledge must be covered
- o Training must cover all machines used such as sewers, knitters, cutting tools, ironing machines etc.
- o Training must cover quality auditing basics
- o Training must cover production line management basics
- o Training must cover safety basics
- o Training must emphasize multi-tasking in the garment industry
- o 25% of training time internship in a garment company

5.3 Manufacturing: Plastic industries

Suggested training programs should follow the guideline described in Section 8.1 thru 8.3. Each training program should be designed per the industry standards. In addition, the following are key items to be taken in consideration when designing and implementing each program.

The names of training programs are just suggested names. TVET centers may have different name with similar content.

9.3.1 Machine operator and maintenance training:

- o This training prepares graduates to become operators and maintenance technicians
- o Plastic basic knowledge must be covered
- o Plastic operations basics must be covered. This includes injection, blowing, mixing, extrusion, molding, palletizing, etc.
- o Training must cover all machines used in the plastic industry
- o Training must cover mechanical machines basics
- o Training must cover electrical machines operations basics
- o Training must cover PLC operations and maintenance basics
- o Training must cover safety basics
- o 25% of training time internship in plastic company

9.3.2 Production line supervisor and quality auditing training:

- o This training prepares graduates to become operators and maintenance technicians
- o Plastic basic knowledge must be covered
- o Plastic operations basics must be covered. This includes injection, blowing, mixing, extrusion, molding, palletizing, etc.
- o Training must cover all machines used in the plastic industry
- o Training must cover quality auditing basics
- o Training must cover production line management basics
- o Training must cover safety basics
- o Training must emphasize multi-tasking in the garment industry
- o Training must cover supply chain management basics
- o 25% of training time internship in plastic company

9.3.3 Plastic technician

- o This training prepares graduates to become a specialist in certain plastic process such as injection, blowing, mixing, extrusion, molding, palletizing, etc.
- o Plastic basic knowledge must be covered
- o Plastic operations basics must be covered. This includes injection, blowing, mixing, extrusion, molding, palletizing, etc.
- o Training must cover all machines used in the plastic industry
- o Training must focus on one or more of the following processes: injection, blowing, mixing, extrusion, molding, palletizing, etc.
- o Training must cover safety basics
- o 50% of training time internship in plastic company

Note:

This training is best performed as per guidelines in Section 8.6

5.4 Manufacturing: Engineering Industries

Suggested training programs should follow the guideline described in Section 8.1 thru 8.3. Each training program should be designed per the industry standards. In addition, the following are key items to be taken in consideration when designing and implementing each program.

The names of training programs are just suggested names. TVET centers may have different name with similar content.

9.4.1 Machine maintenance training:

- o This training prepares graduates to become maintenance technicians
- o Basic maintenance knowledge must be covered
- o Training must cover mechanical machines basics
- o Training must cover electrical machines operations basics
- o Training must cover PLC operations and maintenance basics
- o Training must cover safety basics
- o 25% of training time internship in a factory

9.4.2 HVAC training:

- o This training prepares graduates to become HVAC technicians
- o Basic HVAC knowledge must be covered
- o Welding basics must be covered
- o Metal work basics must be covered
- o VRF and VRV systems basics must be covered
- o Assembly skills basics must be covered
- o Training must cover electrical machines operations basics
- o Training must cover PLC operations and maintenance basics
- o Training must cover safety basics
- o Electrical wiring basics must be covered
- o 25% of training time internship in a factory

9.4.3 Goldsmithing training:

- o This training prepares graduates to become a technician in the jewelry business
- o Basic goldsmithing knowledge must be covered
- o Welding basics must be covered
- o Training must cover basics of Polishing, fusing, finishing and gold interlacing processes
- o Gemstone installation basics must be covered
- o Training must cover 3D designing and creativity skills
- o Training must cover safety basics
- o Using tools and kits basics must be covered
- o 25% of training time internship in a factory

5.5 Logistics sector

Suggested training programs should follow the guideline described in Section 8.1 thru 8.3. Each training program should be designed per the industry standards. In addition, the following are key items to be taken in consideration when designing and implementing each program.

The names of training programs are just suggested names. TVET centers may have different name with similar content.

9.5.1 Warehouse operator training:

- o This training prepares graduates to become warehouse operators
- o Basic logistics and warehouse knowledge must be covered
- o Basics of receiving, put away, picking and shipping must be covered
- o Basics of warehouse layout and management must be covered
- o Computer skills-Excel basics must be covered
- o Training must cover data entry basics
- o Training must cover safety basics
- o 25% of training time internship in a logistics company

9.5.2 Drop shipping technician training:

- o This training prepares graduates to become drop shipping technicians
- o Basic logistics and warehouse knowledge must be covered
- o Basics of receiving, put away, picking and shipping must be covered
- o Basics of drop shipping must be covered
- o Computer Skills-Excel basics must be covered
- o Training must cover safety basics
- o Customer service basics must be covered
- o 25% of training time internship in a logistics company

9.5.3 ERP system administrator training:

- o This training prepares graduates to become ERP system administrators
- o Basic logistics and warehouse knowledge must be covered
- o Basics of receiving, put away, picking and shipping must be covered
- o Basics of warehouse management system must be covered
- o Computer skills-Excel basics must be covered
- o Training must cover data entry basics
- o Training must cover ERP basics
- o 25% of training time internship in a logistics company

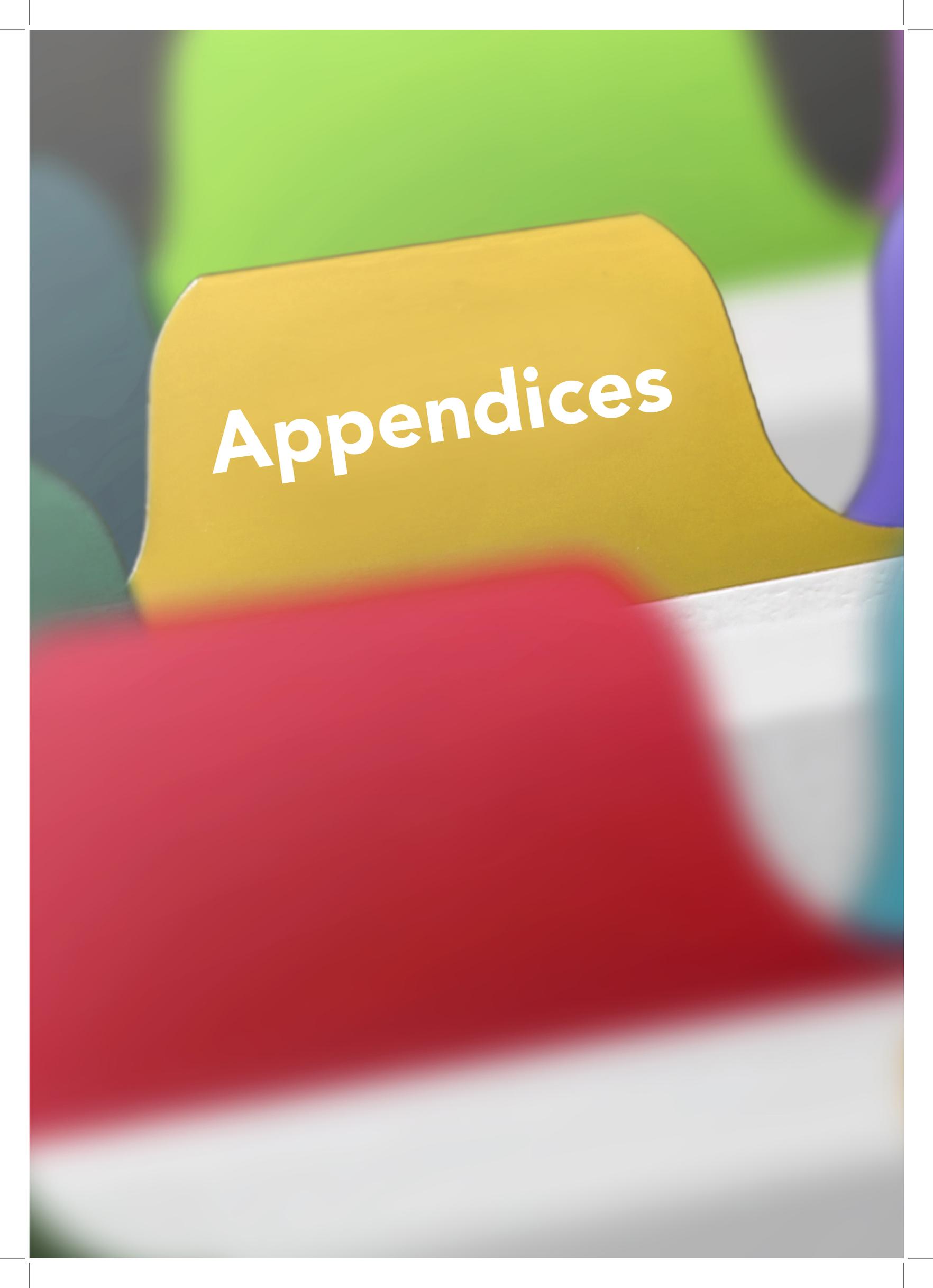
9.5.4 Forklift operator training:

- o This training prepares graduates to become warehouse operators
- o Basic logistics and warehouse knowledge must be covered
- o Basics of receiving, put away, picking and shipping must be covered
- o Basics of warehouse layout and management must be covered
- o Computer skills-Excel basics must be covered
- o Training must cover practical forklift driving basics
- o Training must cover the basics of different types of forklifts
- o Training must cover safety basics
- o 50% of training time internship in a logistics company

Note:

This training is best performed per guidelines in Section 8.6

Appendices

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Appendix I: Questionnaire for interviews with employers

Dear Sir, Madam,

This interview is carried out as part of improving employability of underprivileged Jordanians and Syrian refugees residing in Jordan in the various sectors. The questions used in this interview are articulated to improve the match between your needs as an employing party and the outcomes of TVET programs.

We will only take one hour of your time, and we highly appreciate your participation.

Name:

Title:

Company:

Sector:

No. of employees:

Section 1: COVID-19 effects:

- 1- How was your business effected by COVID-19? YES NO
If you chose YES, Please list main points

- 2- Did the current corona pandemic affect the type of skills needed from workers to operate? YES NO
If you chose YES, what are the new skills?

- 3- What new skills (if any) you think we should train new workers on, in post COVID-19 era?

- 4- In your mind, what new jobs/ new roles (if any) created because of COVID-19?

Section 2: Working Conditions:

- 5- Do you pay workers on time? Always Never Most of the time sometimes

- 6- Do you offer overtime pay when overtime is performed? YES NO

- 7- Do you believe the working conditions are decent and appropriate for the type of jobs performed at your company? YES NO
If you chose NO, Please elaborate

- 8- If you hire someone with outstanding abilities in the skills you are looking for, are you willing to pay more for him /her? YES NO

- 9- Do you perform any onboarding activities for new workers? YES NO
If you chose YES, please elaborate

- 10- Do you perform any training for your workers? YES NO
If you chose YES, please list training programs performed at your facility

11- Do you acknowledge great efforts by workers? YES NO
If you chose YES, please elaborate

12- If they have the right skills, are you willing to hire underprivileged Jordanians and or Syrians in entry-level jobs? YES NO
If No, why?

13- If they have the right skills, are you willing to hire underprivileged Jordanians and or Syrians in jobs requiring high skill levels? YES NO
If No, why?

Section 3: Needed Jobs and skills in the next few months to a year:

14- What are the common skills that should be mastered by workers in your sector?

15- What are the specific skills that your sector needs?

16- The work performed by workers rely on:
General labor Technical skills Both

17- Do you maintain skills matrices? YES NO
If you chose YES, what do you benefit from such matrices?

18- Do you have job description / job analysis for the jobs performed at your company? YES NO

19- Your issues with your current workers and employees?
Attitude issues Lack of technical skills Inability to learn
Poor training or education Others

If others, please specify

20- What entry-level jobs you think you will need in the next year? Please mention job titles and expected quantity to be hired in the next year

21- What jobs you think you will need in the next year that require high skills? Please mention job titles and expected quantity to be hired in the next year

22- What vacancies are difficult to fill for you?

23- What are the reasons for question 8?
Lack of skills Attitude issues Poor training Others
If others, please specify

24- What are skills you think that are difficult to find in new recruits?

Technical such as:

Soft skills such as:

25- Do you think these skills can be gained through outside training?

26- Are attitude and personal skills more or less important to you compared to technical skills?

More Important Less Important Equally Important

27- From your experience, new hires lack technical or personal skills?

Technical Skills Soft Skills

Elaborate if you wish

28- What are the difficult skills to train on the job?

29- What Other Safety related skills new hires should be trained on? (if any)

a. Safety:

b. Quality and auditing:

c. Computer:

d. Others:

30- What do you consider saturated jobs in your sector? Please list few (if any)

Section 4: TVET Providers:

31- What skills would you suggest training and vocational centers should focus on, this year? Please list few

32- Do you suggest training programs (titles) to focus on?

33- Mentions skills provided by TVET centers currently, that you consider great.

34- Do you think vocational and training centers prepare employees and workers for the jobs at your company? YES NO
Please elaborate

35- Do you think you can cooperate with training and vocational centers in preparing workers to master needed skills? YES NO

If Yes how?

If No, why?

36- Any additional remarks?

Thank you for participating in this interview.

Appendix II: Questionnaire for interviews with employees / Experts

Dear Sir, Madam,

This interview is carried out as part of improving employability of underprivileged Jordanians and Syrian refugees residing in Jordan in the various sectors. The questions used in this interview are articulated to improve the match between the needs of employers and the outcomes of TVET programs.

We will only take one few minutes of your time and we highly appreciate your participation.

Name: _____ **Title:** _____
Company: _____ **Sector:** _____ **No. of employees:** _____

Section 1: COVID-19 effects:

- 1- Did the current corona pandemic affect the type of skills needed from you to operate? YES NO
If you chose YES, what are the new skills?

- 2- What new skills (if any) you think new workers should be trained on, in post COVID-19 era?

Section 2: Working Conditions:

- 3- I get paid on time? Always Never Most of the time sometimes

- 4- I get paid for overtime work? YES NO

- 5- Do you believe the working conditions are decent and appropriate for the type of job you perform?
YES NO
If you chose NO, Please elaborate

- 6- Do you get any training on the job? YES NO
If you chose YES, please list training programs performed at your facility

- 7- Do you feel your efforts are acknowledged by your management? YES NO
If you chose YES, please elaborate

Section 3: Needed Jobs and skills in the next few months to a year:

- 8- What are the common skills that should be mastered by workers and are typically used in your sector?

- 9- What are the specific skills that your sector needs?

- 10- The work performed by workers rely on:
General labor Technical skills Both

11- Do your company have job description for your job? YES NO

12- Work issue you see in coworkers include:

Lack of skills Attitude issues Poor training Others
If others, please specify

13- Are attitude and personal skills more or less important to you compared to technical skills?

More Important Less Important Equally Important

14- From your experience, new hires lack technical or personal skills?

Technical Skills Soft Skills

Elaborate if you wish

15- What are the difficult skills to train on the job?

16- What skills you would like your current employer to train you on?

17- Any additional remarks?

Thank you for participating in this interview

Appendix III: Questionnaire for interviews with LTUC Graduates

Dear LTUC graduate,

This interview is carried out as part of improving employability of underprivileged Jordanians and Syrian refugees residing in Jordan in the various sectors. The questions used in this interview are articulated to improve the match between the needs of employers and the outcomes of TVET programs.

We will only take few minutes of your time and we highly appreciate your participation.

Name:

Title:

Company:

Sector:

Section 1: COVID-19 effects:

- 1- Do you think the current corona pandemic affected the type of skills needed from workers to operate? YES NO
If you chose YES, what are the new skills?

- 2- What new skills (if any) employers are now asking for, in post COVID-19 era?

Technical skills:

Personal skills:

Soft skills:

Others:

- 3- In your mind, what new jobs/ new roles (if any) were established because of COVID-19?

Section 2: Needed Jobs and skills in the next few months (Only if you are currently working):

- 4- What are the common skills that should be mastered by workers and are typically used in all sectors?

- 5- What are the specific skills that your sector needs?

- 6- The work performed by you relies on:

General labor:

Technical skills:

Analytical skills:

- 7- Do you think these skills can be gained through outside training? YES NO

8- Are attitude and personal skills more or less important to you compared to technical skills?

More Important

Less Important

Equally Important

Section 4: TVET Providers:

9- What skills would you suggest LTUC should focus on, this year? Please list few

10- Do you suggest training programs (titles) to focus on?

11- Mentions skills provided by LTUC currently, that you consider great.

12- Do you think LTUC prepares graduates for the job? YES NO

If NO, please elaborate

13- Any additional remarks?

Thank you for participating in this interview.

Appendix IV: Initial list of companies to establish database of contacts

Table App. 1: Top Wood and furniture Companies

اسم المنشأة	الهاتف	رقم الجوال	البريد الالكتروني	الموقع الالكتروني
مصنع الايوبي للمفروشات المعدنيه	064023913; 064023913	795529005	info@ayoubi.com	www.ayoubi.com
مفروشات لبنان	65864901	0796446865; 0777777702	issa@lfco.com.jo	WWW.LFCO.COM.JO
الاردنية للصناعات الخشبية / جوايكو	64201171	797927004	ALAAS@jwico.com	www.jwico.com
المعالي وشركاه للاثاث	64129119	0795977144; 0795525610; 0797451919	maani@maani.com	www.maani.com
طهبوب اخوان للصناعات الخشبيه	065519500; 065861555	0797007008; 0795819494	info@tahbaub.org; hr@tahbaub.org	www.tahboub.net
شركة لزار ماضي وشركاه	65811383	795530119	info@madifurniture.com	www.madifurniture.com
العربيه لصناعه الفورمايكا والاخشاب ذ م م	064163856; 064163856	799745112	SUHAIL@ALESSAMI.JO; infi@acfw.com.jo	acfw.com.jo
اطلس لصناعة الاثاث	64872899	798207067	cfo@richmond.jo	www.richmond.jo
التقنيه المتقدمه	64025470	799922246	m.fataftah@protech.jo	www.protech.jo
المتميزه الصناعيه التجاربه	064026251; 065822737; 064647525	0791099856; 0796320303	exportdpt@nova.com.jo; ali@nova.com	www.nova.com.jo
الاردنيه المتخصصه لصناعه الاخشاب	64129119	0795603776; 0795977144; 0799666609	maani@maani.com	www.maani.com
المتطورة لصناعة الاثاث	64622316	795239944	info@image.com.jo	www.image.com.jo
مجموعه دملاج الصناعيه	64204002	796514095	fares.abuawwad@dimlaj.com	WWW.DIMLAJ.COM
المستقبل للصناعات الخشبية	64711573	795542449	info@fwooden.com	www.fwooden.com
هيثم دهله وشريكته	64027770	0775001134 0775001133 0799527907	dehne@jordanmica.com.jo; alhindimoh@yahoo.com	www.jordanmica.com.jo
الاردنيه الخليجه لصناعه المفروشات والديكور	64711881			
لؤلؤة نيبو للموزاييك والحرف اليديويه	53240900	799000200	ahmed.zurairqi@hotmail.com	www.nebospearl.com
الاصبح الصناعيه	64122267	795274312	fareedasbah@hotmail.com	
المستودعات الصناعيه المتحدة	65856956	799287777		
شركة جبل بني حميدة للتحف والفضة والفسيفساء	53241364	795555122		

Table App. 2: Top Garment Companies

اسم المنشأة	الهاتف	رقم الجوال	البريد الإلكتروني
اتحاد النساجون العرب	64022792	798655940	INFO@ISALONTIGROUP.COM
الجمال العالمية لصناعة الالبسة الجاهزة ذ.م.م	065653295 ;032356016		
جرش لصناعة الملابس والازياء	64020640	782800200	oryana@japparel.com.jo
اطلطا لصناعة الملابس ذ.م.م	64021836	0777167440; 0788101774	awadala@atlanta.com.jo; malek@atlanta.com.jo
المقام لصناعة الألبسة	064024571 ;064024570		documents@prestigeapparelfmfg.com; accounts@prestigeapparelfmfg.com
مصنع العاج للالبسة	64024801	797520270	info@ivory.com.jo
اسيل العالمية لصناعة الالبسة الجاهزة	64024005	797778881	KHALDOUN@UGMC.AE
ديبل يو اند دي لصناعة الالبسة (الاردن) كورب	64027994	0790214770; 0798365070	michaelchiu@wnd.com.tw;MUSAED@WN D.COM.JO; awadala@atlanta.com.jo
اطاتكس للتجارة الخارجية (الاردن)	64025158	0787061163;078 7061162; 0772840513	halis.yidirim@atateksjordan.com; hashimdeeb_05@yahoo.com
ماس الصافي لصناعة الالبسة	64020570	0795829827; 0778433468	FFFRAM@sQm.cam.jo
الفلك لصناعة الالبسة الجاهزه	065653295; 032356016		
الكرم لصناعة الموكيت	64711674	795287015	amjad@alkaramcarpet.com
شركة عين للنسيج	064050066; 064050066		sales@ayntextile.com
ابان لصناعة الجلود الصناعيه والاقمشه		798051020	ANASMAL@GMAIL.COM
باين تري لصناعة الملابس	64611341	790526568	muath@pinetree.com.jo
العدنان لصناعة السجاد	64711866	0777814115; 0797575550	aladnan.carpet@gmail.com; AKRAM.82@WINDOWS.LIVE.COM
شركة سدني للالبسة	32058879	791149075	jayapal.nair@mustworld-dubai.com
مصطفى وكمال اشرف للتجارة (الاردن) لصناعة الالبسة الجاهزة	64024570	797111807	PRO@PRESTIGEAPPARELNMFG.COM; accounts@MK-garments.com
شركة ارك لصناعة الالبسة	32060776	795834677	rama@bluebirdapparels.com
شركة اسلام فاوقجي وشريكته	64873803	799790838	i.kawikji@gmail.com

Table App. 3: Top Plastic Companies

اسم المنشأة	الهاتف	رقم الجوال	البريد الالكتروني
عبدالحمد عبدالله فرحات العنابيه الصناعية	064029469; 064022049	775066674	hiba@farhatplastic.com
الاغطيه الزراعيه	64725003	0795770278; 0795517722	info@daoudco.jo
العربيه لصناعه انابيب الري بالتنقيط (ادريتك)	064022199; 065603779		luay@adritec.com.jo
شركة حسن ومحمد علي حسن الصمادي		0799079900; 0795503606	info@giantgroup.me
شركة التقنيه العربيه للصناعات البلاستيكيه	064023845; 064023844	797555677	info@top.com.jo
مؤسسه عبدالحمد شودي الله ديتا شودي	064029651; 064029651		ACC@CH-LAST.COM; info@ch-plas.com
محمود ابوخلنه وشركاه	064023605; 064657930		info@GEPICO.COM
الاهرام للبلاستيك	64888111	795555049	alahramplastic@yahoo.com
المخصصه للصناعات البلاستيكيه	064872014; 064884007	0795525477; 0796947806	info@sandmplastic.com
خليل ابراهيم راضي وشركاه	064025170; 064025170	795514403	dip@dip.com.jo
الافق للصناعات البلاستيكيه	64024690	795527283	YASER.ELIAN@GMAIL.COM
ابراهيم محمود حسن عبدالدين	64029554	0795603645; 0795741110	exportdep50@ymail.com
فرويدنبيرج فيليدا (الاردن)	64714777	795722662	Yazeed.ALAhmad@FHP-WW.COM
وادي السير لصناعه الاسلاك والكوابل الاردنيه	64640444	795000197	info@wadiseercables.com; jaitem_1975@hotmail.com
مؤسسه بسام محمد احمد حمد	64020989	795526104	sawafactory@gmail.com; info@sawaplastic.com
شركة المشراق الصناعيه	64021349	795035510	info@ekalfactory.com
السنابل للصناعات التحويليّه	64020017	795612533	sanabelkhatab@yahoo.com; info@sanabelkhatab.com
شركة بيسان لصناعه قطع غيار السيارات	064020130; 064020132	790235837	besan@siyamgroup.com
الفحاء للصناعات البلاستيكيه	065620914; 064023482		INFO@alfyhaa.com
عقاد لصناعه السجاد والموكيت والخيوط	64652499	0778808000; 0791384000	akkadcarpet02@yahoo.com

Table App. 4: Top Engineering Industries Companies

اسم المنشأة	الهاتف	رقم الجوال	البريد الإلكتروني
بترا للصناعات الهندسية	64050940	795520105	OAWISHAH@PETRA-ENG.COM.JO
الاردنية لصناعة البيوت الزراعية	064165062; 064165064	799979333	amal.jadallah@rayyan.com.jo; green@rayyan.com.jo
حسين محمد العابوره وشركاه	64907096	795028240	shipping.amman2@jordanianmetals.com; info@jordanianmetals.com
الشركة العربية لصناعة المواسير المعدنية	064022136; 064022136	0778001400; 0778444407	info@asp-jo.com
الشريف لصهر وتجارة المعادن	64163023	0795990770; 0795770220	info@alsharifmetals.com
الدولية للصياغة والمجوهرات	64623790	795525542	oemsaih@go.com.jo
صناعه المعدات الكهربائيه	65727861	796446257	electric@orange.jo; elico@elico-jo.com
ربحي علان لصياغة الذهب والفضه	064631300; 064631200		ALI-3ALLAN-85@YAHOO.COM
امور الاردن لتقنيات المجوهرات المتقدمة	64026662	798100723	m.naser@ALESSIOFITALY.COM
جزم لصناعة الذهب	53533982	798100723	mawad@gzmopera.com
خلوصي موسى كايد ملاح	064051950; 064051951	797000566	info@khlouse.com
المدينة للصناعات الهندسية.	65865536	0796712223; 0791998179	headoffice@abdin.com.jo
الاقليمية للصناعات المعدنية	64051950	797000566	info@regional-met.com
مصانع الكابلات المتحده	65549292	799061092	UCIC@UCICCABLES.COM
الخليج للكابلات والصناعات المتعددة الاردن	065524144; 026234629		infojo@gulfcable.com
الخليج للصناعات المعدنية	32063661	798707679	info@gulfsteel.net
فيلادلفيا للطاقة الشمسية	64716601	0787819088 ;0798207054	k.abdullah@philadelphia-solar.com
بنك المعادن	64163023	0795990770; 0795526680	info@metalsbanks.com
المحيط لتدوير البطاريات	64907096	795349030	info@jordanianmetals.com
اوريت لصناعات الالمليوم	32031353	795798068	mdaabout@orditalu.com

Table App. 5: Top Logistics Companies

اسم المنشأة	الهاتف	البريد الالكتروني
شركة ارامكس الاردن المحدودة	+962 (6) 5358855	ammcare@aramex.com
DHL	+962 (6) 5800800	hamzeh.numan@dhl.com
Fedex – TNT	+962 (6) 5931966	islam.khalil@fedex.com
مجموعة قعووار	+962 (6) 5808034	accounts@altawfiq.com.jo
مجموعة الناعوري	+962 (6) 5004435	kareem.logistics@naouri.com
شركة الليان للخدمات اللوجستية	+962 (6) 4129650	info@allayan.com
شركة درب للتجارة و التبريد	+96264121571	
الحلول المثلى للشحن والخدمات اللوجيستيه	65672986	mb@dipexco.com
لازورد للتجارة والخدمات اللوجيستية ذ.م.م	64202029	info@lazurdco.com
ترانس ميد الاردن ذ.م.م	64711201	tm-jordan@transmed.com
ساحل الخليج للخدمات اللوجيستية ذ.م.م.	65824412	info@gcelogistic.com
التميز للخدمات اللوجيستيه ذ.م.م	65371523	md@qljordan.com
المستقلة للخدمات اللوجيستية و المخازن م.خ.م.	65854019	aalawan@ilwco.com
العربية للانظمة اللوجيستية ذ.م.م	65820006	tony@libanet-lb.com
المتكاملة للخدمات اللوجيستية	65530305	arda@otsjo.me
الاردنية القبرصية للخدمات اللوجيستية	65335550	info@globewilliams.com.au
زودياك للخدمات اللوجيستية	65548030	info@zodiaklogistics.net
التميزة العربية للشحن والخدمات اللوجيستية	65543738	grandarabia@grandarabia.com



EDU-SYRIA

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