RAPID
LABOUR MARKET ASSESSMENT
FOR
SKILLED WORKFORCE
IN
KEY ECONOMIC SECTORS

Table of Contents

Acronyms

AC	Air Conditioner
B. Tech	Bachelors in Technology
CBT	Competency Based Training
DAE	Diploma of Associate Engineering
NAVTTC	National Vocational & Technical Training Commission
NSIS	National Skills Information System
NSS	National Skills Strategy
NVQF	National Vocational Qualification Framework
PVTC	Punjab Vocational Training Council
QABs	Qualification Awarding Bodies
RPL	Recognition of Prior Learning
STATA	Software for Statistics and Data Science
TEVTA	Technical Education and Vocational Training Authority
SSP	Sector Support Programme
TVET	Technical Education & Vocational Training

Executive Summary

This report aims to provide Pakistan's labour market assessment focusing on the skills gaps, shortages and future workforce requirements in the manufacturing and services sectors in Punjab, Sindh, Baluchistan and Islamabad. The employers' skills survey was the key data source for this study. However, evidence from various sources such as Pakistan Bureau of Statistics (PBS), State Bank of Pakistan (SBP), and National Vocational & Technical Training Commission (NAVTTC) were used for this study.

A total of 11,063 employers were interviewed for identification of skills gaps and future workforce requirement across 15 districts, covering all types of enterprises in manufacturing and services sectors, which were major driving engines for employment generation and growth. The survey focused on three key areas: i) characteristics of existing employed workforce; ii) currently available vacancies in the job market, and iii) future workforce requirements.

Province/region wise headline findings are provided below.

Punjab

Existing workforce in Punjab is dominated by male gender in both the formal and informal labour market with a share of 90 percent and 85 percent, respectively. Over 85 percent of the existing workforce acquired skills through informal and non-formal learning pathways, and the contribution of formal TVET institutes is only 12 percent in the employed skilled workforce in Punjab. A total of 200,012 job vacancies were available at the time of the survey and there is a projection that approximately 359,873 employment opportunities will be created in future in textiles, garments, leather products, construction, surgical instruments, retail, hospitality, automobile servicing, and personal care sectors. Moreover, the gender share in future skilled workforce has improved from 6 percent in 2018 to 19 percent in 2020. Over 62 percent of the employers were satisfied with the workforce trained in formal TVET institutes and around 72

percent responded that the workforce they hired from TVET sector fulfil the skills requirements of their enterprises.

Sindh

Existing workforce in Sindh is dominated by male gender in both the formal and informal labour market with 89 percent and 91 percent shares, respectively. Over 83 percent of the existing workforce acquired skills through informal and non-formal learning pathways, and the contribution of formal TVET institutes is only 12 percent in the employed skilled workforce in Sindh. A total of 18,119 job vacancies were available at the time of the survey and there is a projection that approximately 207,692 employment opportunities will be created in future in construction, textiles, hospitality, personal care, automobile sectors etc. Gender share in future skilled workforce requirement in Sindh will be over 34 percent of total demand.

Baluchistan

Like Punjab and Sindh, the existing workforce in Baluchistan is also dominated by male gender in both the formal and informal labour market with 86 percent and 93 percent shares, respectively. Over 80 percent of the existing workforce acquired skills through informal and non-formal learning pathways, and the contribution of formal TVET institutes is only 13 percent in the employed skilled workforce in Baluchistan. Highest shortage of skilled workforce has been reported in Lasbella, Quetta and Gwadar. A total of 66,531 job vacancies were available at the time of the survey and additional 149,440 employment opportunities will be created in future in construction, food production, textiles, pharmaceutical, steel, retail, hospitality, and automobile sectors etc. Gender share in future skilled workforce requirement in Baluchistan will be approximately 5 percent of total demand.

Islamabad

Share of male gender in the existing employed skilled workforce is 89 percent, whereas, the female share is only 11 percent. Over 90 percent of the existing workforce acquired skills through informal and non-formal learning pathways, and the contribution of formal TVET institutes is only 4 percent in employed skilled workforce in Islamabad. A total of 7,639 vacancies were available at the time of the survey and there is a projection that additional 35,099 employment opportunities will be created in future in construction, textiles, hospitality, personal care, automobile sectors etc. Gender share in future skilled workforce requirement in Islamabad will be over 24 percent of the total demand.

Conclusion and Recommendations

Evidence has accumulated around the world that the skilled workforce is an important element in achieving and sustaining higher economic growth which results in decreasing unemployment in the labour market. The same implies to Pakistan's labour market. Unfortunately, the TVET system in Pakistan that can be a catalyst for sustained economic growth and increased productivity has not been able to respond effectively to the ever-changing labour market needs. Non-availability of job market information has been a major hurdle in evidenced-based TVET planning and implementation due to which various emerging trades are not offered in TVET institutes.

This report provides a labour market assessment in priority economic sectors. Specific recommendations are provided for each region; however, some key policy recommendations are as under:

1. National and provincial TVET plans must be reviewed annually based on the labour market demand of the industry to make the TVET interventions relevant and current with the job market needs;
2. Curricula and training programs must be reviewed in collaboration with industry and training facilities should be upgraded, accordingly;
3. Business start-up training and mentoring through the private sector should be offered to TVET trainees to encourage self-employment;
4. Job placement services should be extended to the enterprise level for which a comprehensive information and communication plan is required to be executed;
5. Apprenticeship and Recognition of Prior Learning (RPL) should be upscaled in all provinces and regions to increase the share of formal TVET system in the labour market; and
6. Regular labour market assessment and tracer studies should be conducted for informed and evidenced-based TVET planning and implementation.

Introduction

Employment is a key development indicator to measure the performance of a country's economy. According to a study conducted by the World Bank[1], there exists an empirical relationship between growth and employment. A higher and stable growth rate has the propensity to absorb the surplus labour force from the job market as a result the benefits of higher economic growth are trickled down to the lower halves of the economy. From 2015 to 2018, the average GDP growth rate of Pakistan remained 5% and over one million annual jobs were anticipated for the skilled workforce by NSIS.

In the Year 2017, TVET Sector Support Programme (TSSP) conducted seven sectoral studies to identify employment potential in priority economic sectors in every region and skills development interventions were initiated accordingly. However, the economic situation of the country has changed in the last year, as the GDP growth rate has decreased[2] from 5.4% in 2018 to 3.9% in 2019, and it is apprehended that a substantial number of jobs would be abridged that would increase the unemployment rate.

The mid-term evaluation of the TVET Sector Support Programme carried out in May 2019, has suggested to carry-out a rapid market assessment for a skilled workforce to get a fresh insight of the labour market and to verify the employment projections provided in previous sectoral studies. Therefore, the purpose of this study is to assess the current labour market situation in Pakistan and to verify the findings of sectoral studies conducted in the year 2017. The findings and recommendations of the report would help policymakers and stakeholders in reviewing and re-adjusting the skills development initiatives.

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[1] Source: World Bank Publication, "South Asia Economic Focus, Spring 2018: Jobless Growth"
[2]

Objectives of the Study

The study aims to carry out rapid labour market assessment for a skilled workforce in key economic sectors and to gauge the impact of economic slowdown on employment. The specific objectives of this activity are as under:

1. Collect demand-side employment information from industrial units and employers on the prescribed proforma.
2. Review and verify the already conducted seven sectoral studies in the year 2017 by getting fresh labour market insight.
3. Verify existing pattern, identify skills set for various occupations and anticipate future demand of skilled workforce.
4. Carry out skills demand analysis and anticipate future demand of the workforce both in formal and informal key economic sectors.
5. Formulate recommendations for possible measures leading to enterprise development and employment generation.

Limitation for the Study

The following were some of the limitations of this study:

1. A large number of industrial units operate in the informal sector; identification of data sources and collection of evidence was the biggest challenge during the survey.
2. There is no authentic information available about the total number of industrial units in any sector.
3. Lack of standard occupation titles and their categorization was a serious challenge during data cleaning and analysis.

Scope and Methodology

The scope of rapid labour market assessment is defined in terms of industrial sectors, indicators, regions, and districts. Construction, hospitality, retail & wholesale, food production, surgical instruments manufacturing, personal care, textiles, engineering products, automobile servicing, iron & steel products, pharmaceuticals, information technology and chemicals are some of the key industrial sectors which were focused for data collection from 15 districts across Punjab, Sindh, Baluchistan and Islamabad. Figure 1.1 shows the comparison of growth rates for 2019 and 2020 in key industrial sectors according to the State Bank of Pakistan (SBP). In comparison with the growth rates of FY-2019, growth has been reported for textiles,

fertilizers, leather products, paper & board, engineering products, rubber products, non-metallic minerals and wood products which helped in identification of industrial clusters.

Figure 1.1: Production of selected large-scale manufacturing items
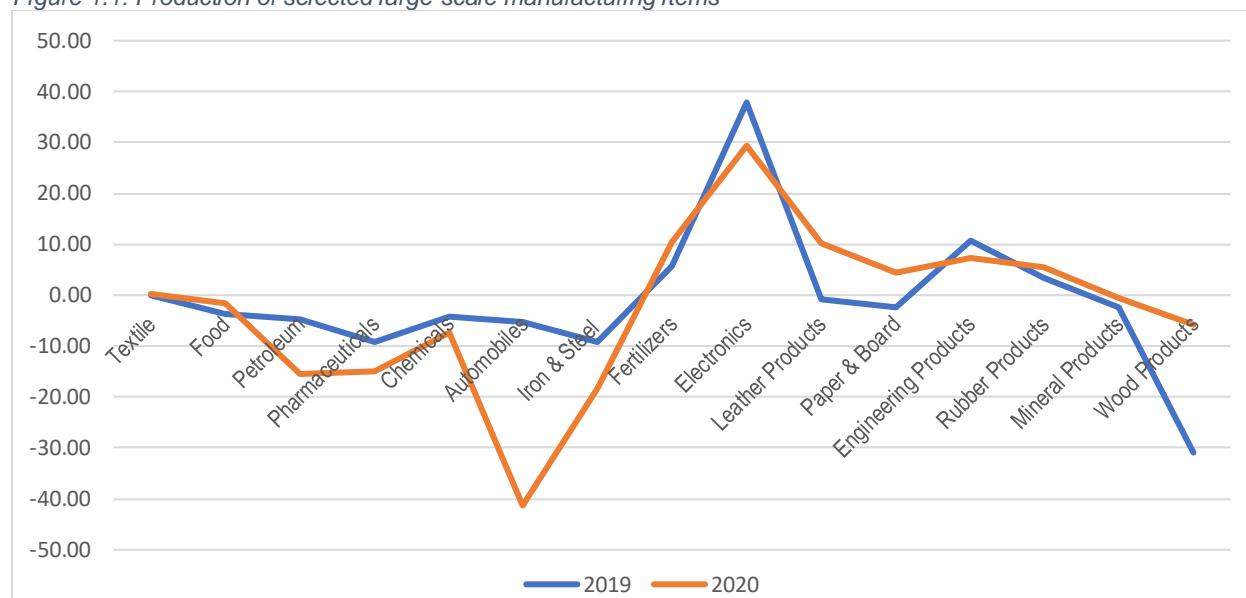
The key indicators covered in this study are as under:

1. Sources of existing employed skilled workforce
2. Gender wise participation in the existing employed skilled workforce
3. Job vacancies available in the labour market at the time of the survey
4. Sector-wise and district wise skilled workforce shortages
5. Gender-wise and district-wise future skilled workforce demand
6. Sector-wise and industry-wise skilled workforce projections
7. Leading occupations/trades sector and industry-wise
8. Leading occupations/trades district-wise
9. Employer level of satisfaction with the skilled workforce produced through various learning pathways

The survey was conducted in the following provinces and districts where employment potential exists.

Table 1.1: Provinces and districts having employment potential

Province	Districts
Punjab	Sialkot, Faisalabad, Lahore, Gujranwala, Gujrat, Multan
Sindh	Karachi, Hyderabad, Sukkur, Jamshoro (Noori Abad)
Baluchistan	Lasbella, Quetta, Gwadar and Sibi
Islamabad	Islamabad

The sampling frame was defined from the existing NSIS data sets based on the type of industry, geo-location and size to balance the ratio of informality. The sampling frame for data collection for each region is provided below:

Table 1.2: Sampling frame for data collection

Province	Manufacturing	Services	Total
Punjab	1,461	3,353	4,814
Sindh	601	2,222	2,823
Baluchistan	604	1,663	2,267
Islamabad	195	964	1,159
Total	2,861	8,202	11,063

Services of trained enumerators were utilized to collect data from the industry establishments on the prescribed proforma (attached at *Annexure-B*). The data was cleaned, analysed and report is developed.

Growth and Employment Nexus

Pakistan's GDP growth rate has been highly volatile over the years and it is following the same trajectory despite achieving slight stability from 2013 onwards and then a sudden drop in 2019 which has also impacted negatively on employment. Despite the sluggish economic situation, the GDP growth rate has remained close to 4.1 percent from 2006 to 2019, as shown in Figure 1.2, and it is expected that it will remain low in coming years.

Figure 1.2: GDP growth rate of Pakistan
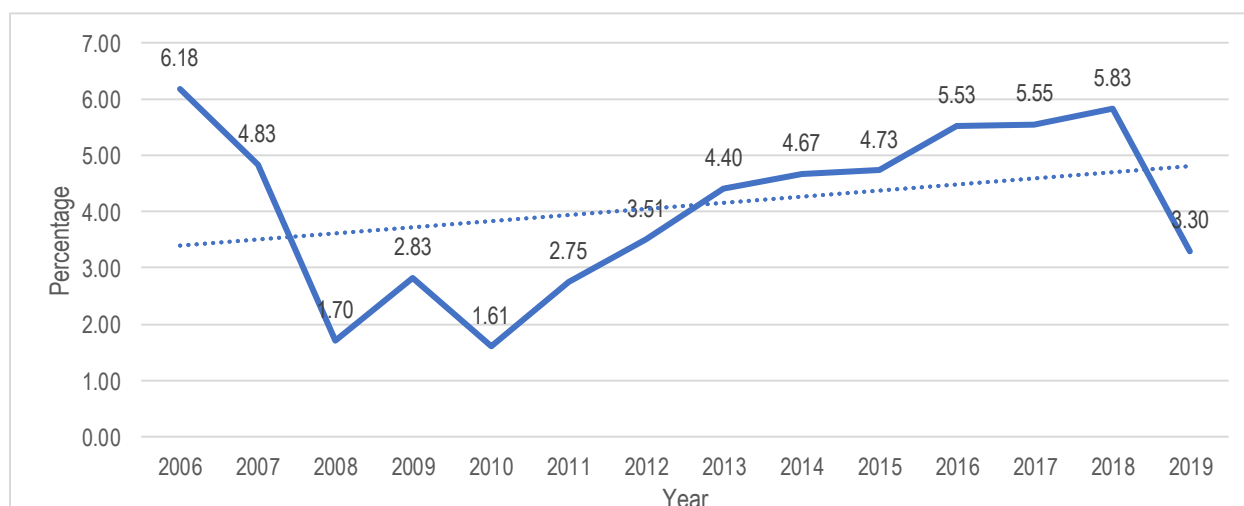
Pakistan's employed workforce[3] was 61.7 million in 2018 from 48.1 million in 2007 which means the economy has generated approximately 1.2 million employment opportunities per year on average. From 2015 to 2018, it generated more employment opportunities i.e. 1.4 million jobs per year on average in response to higher average GDP growth which remained

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[3] Labour Force Survey (LFS), Pakistan Bureau of Statistics (PBS) of various years.

over 5.6 percent for the same period. Figure 1.3 illustrates the relationship between the GDP growth rate and employment in Pakistan.

Figure 1.3: Relationship between GDP growth and employment generation
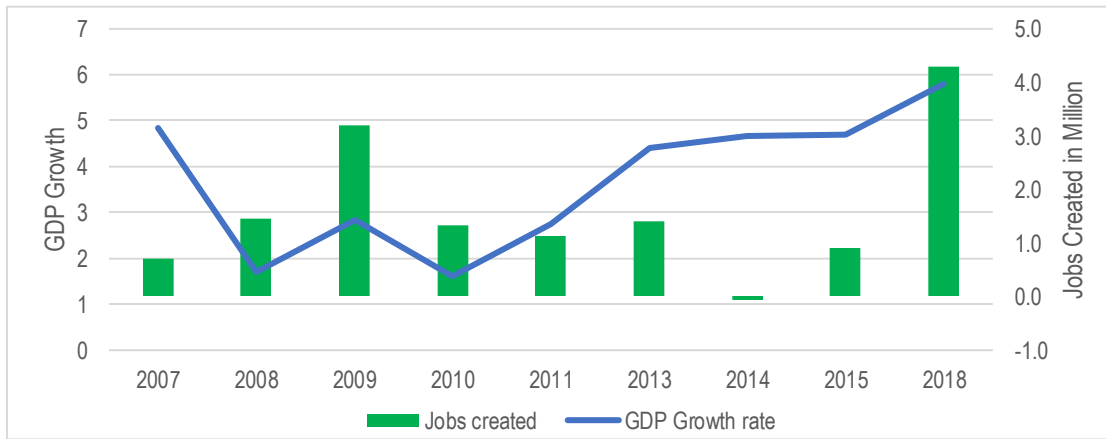
Punjab

Characteristics of Existing Workforce

The existing workforce is dominated by male gender in both the formal and informal labour market with a share of 90 percent and 85 percent, respectively, as shown in Figure 2.1. Share of the female workforce in the existing labour market is less than the male gender and if we compare it with the overall female participation rate in the national labour market which is 25.4 percent, the results for manufacturing and services sectors are highly discouraging.

Figure 2.1: Gender wise participation
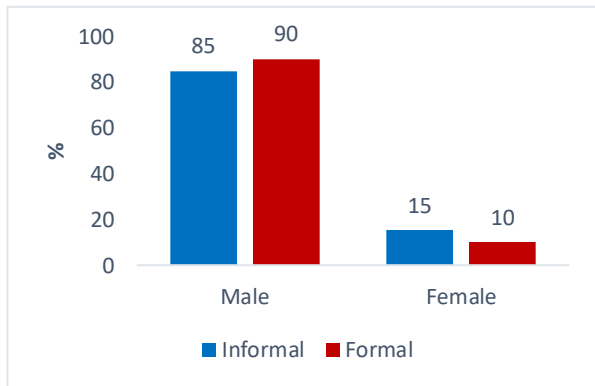
Figure 2.2: Sources of the existing workforce
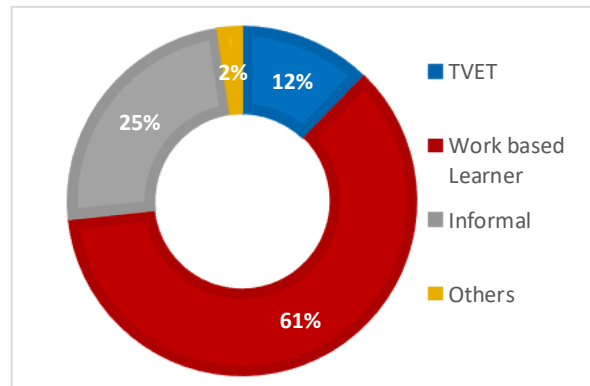
Figure 2.2 provides further information about the sources of the existing workforce. Work-based learning[4] is the most dominated pathway which comprises 61 percent of existing employed workforce in the labour market. Contribution of informal learning pathway or

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[4] Work-based learning is the pathway under which an industry enterprise train workforce at its own.

ustad/shagird system is 25 percent in the existing workforce whereas the share of formal TVET system is only 12 percent and the remaining 2 percent pertains to other sources.

Job Vacancies Available in Labour Market

The results of the analysis revealed that 35,9873 number of job vacancies available at the time of the survey in the job market. the most demanding occupation is Chef with a current demand of 1,525 vacancies. The second most demanded occupation is the Netting Operator in leather product manufacturing industry with 900 job vacancies presently available in the job market. Top demanding jobs have been shown in Table 2.1.

Table 2.1 Job vacancies available in the labour market

Trades	No of Vacancies
Chef	1,525
Netting Operator	900
Mason	825
Electrician	754
Receptionist	678
Burger Making	675
Motor Winding	674
Waiter	650
Fitter	623
Welder	575
Machine Embroidery	505
Machine Operator	500

Skilled Workforce Shortages

Highest skilled workforce shortage has been reported in the manufacturing sector which accumulates a share of 79% and the remaining 21% percent shortages relates to the services sector as shown in Figure 2.3. Further analysis discovered that there is an acute shortage of skilled workers in construction and textiles industries with a share of 15 percent and 20 percent, respectively. In terms of the district, more vacancies exist in Lahore i.e. 42 percent followed by Gujranwala (25 percent), Sialkot (20 percent), Gujrat (8 percent) and Faisalabad (5 percent).

Figure 2.3: Sector-wise Workforce Shortages
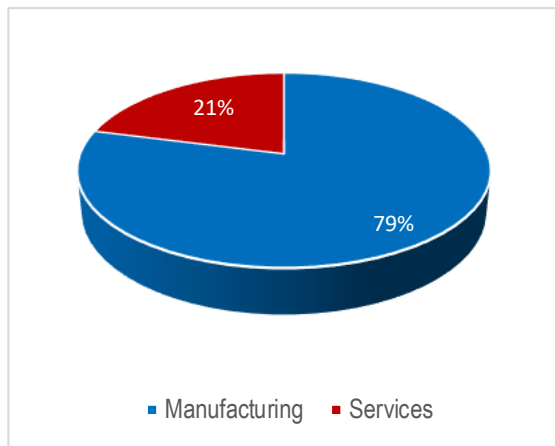
Figure2.4: District Wise Workforce Shortages
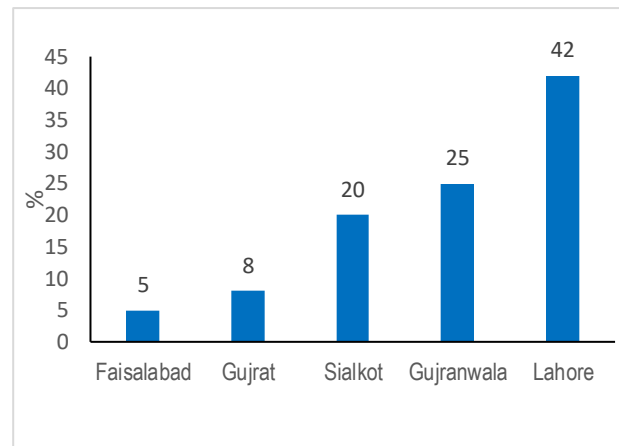
Future Skilled Workforce Demand

The efficiency of a TVET system relies on its level of labour market responsiveness which can only be enhanced if information about future workforce demand is assessed well in time so that labour market policies and strategies can be implemented accordingly. During data collection, employers were asked about their future skilled workforce requirement that would enable timely and evidenced-based TVET planning. Analysis of the responses showed that the demand for skilled workforce in Punjab would be 359,549 in next one year. Highest demand will be generated in Lahore with 117,470 job vacancies in different occupations, the detail of which is provided in the succeeding section of this report. Similarly, the highest female workforce demand has also been assessed in Lahore with 28,477 job vacancies. District and gender-wise projection for future demand for skilled labour have been shown in *Figure 2.5*.

Figure 2.5: Gender & district wise future demand
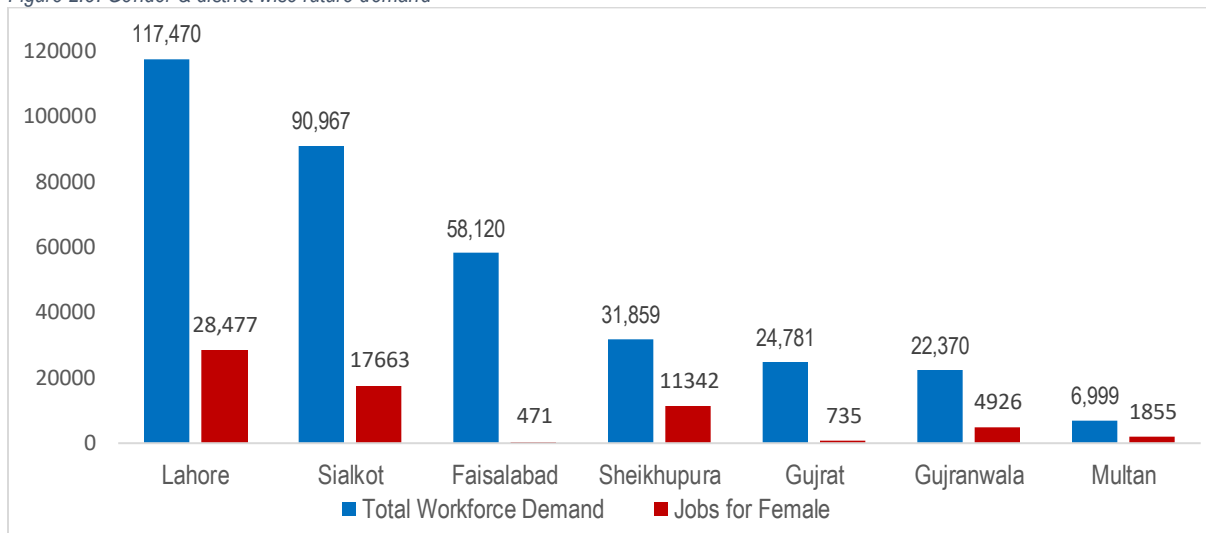
Gender-wise Workforce Demand

Share of gender in future skilled workforce demand has been shown in *Figure 2.6* for the manufacturing and services sectors. The future labour market in Punjab would be dominated by male gender with a share of 81 percent whilst the remaining 19 percent vacancies would be available for females as per the preferences of the employers. In present survey, the demand for female skilled workforce has slightly increased from 6 percent in the year 2018 to 19

percent in 2020. Although the situation has improved slightly still it needs to be enhanced to achieve greater economic productively.
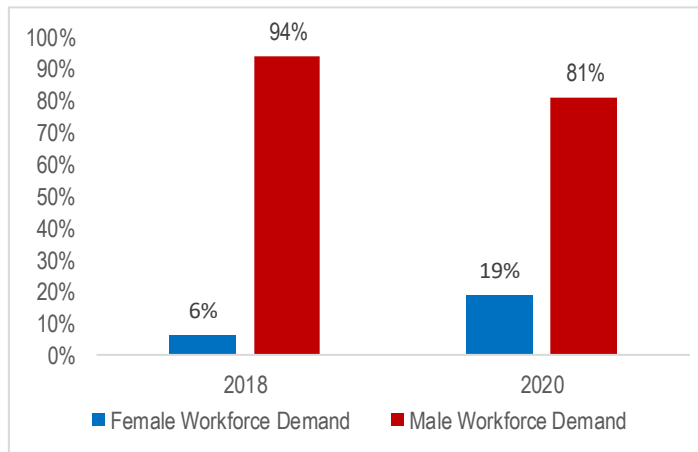
Sector-wise Demand for Skilled Workforce

Manufacturing sector dominates in terms of future demand with 199,496 of skilled workforce which is 55 percent of the total demand i.e. 359,549 for the districts surveyed in Punjab. The share of the services sector in future workforce requirement is 45 percent accumulating a count of 160,053 vacancies in various occupations. Further bifurcation of sub-sectors, industries and occupations is mentioned in succeeding paragraphs.
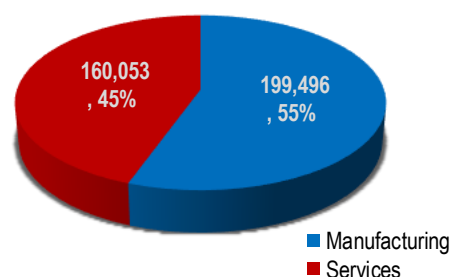
Projection of Workforce Demand in the Manufacturing Sector

The skilled workforce requirements in each sub-sector under the manufacturing sector is shown in *Figure 2.8*. The construction industry has emerged as the leading sub-sector with a potential of 45,629 vacancies followed by leather products, textiles & garments, light engineering and surgical instruments manufacturing with a capacity to absorb 42,909, 30,116, 19,581 and 15,362, respectively. Industries indicated the least demand for workforce includes paper products, metal products, shoes making, plastic products, chemicals and dairy products where the requirement is less than 3,000.

Figure 2.8: Projection of future workforce demand in the manufacturing sector

Number of Vacancies

Category	Value
Paper Product	900
Metal Products	1,173
Shoes Making	1,393
Plastic Product	2,090
Chemicals	2,750
Dairy product	2,838
Wood Products	5,705
Sport goods	8,874
Food Production	9,903
Fan Manufacturing	9,938
Surgical Instruments	15,362
Light Engineering	19,581
Textiles and Garments	30,116
Leather Products	42,909
Construction	45,629
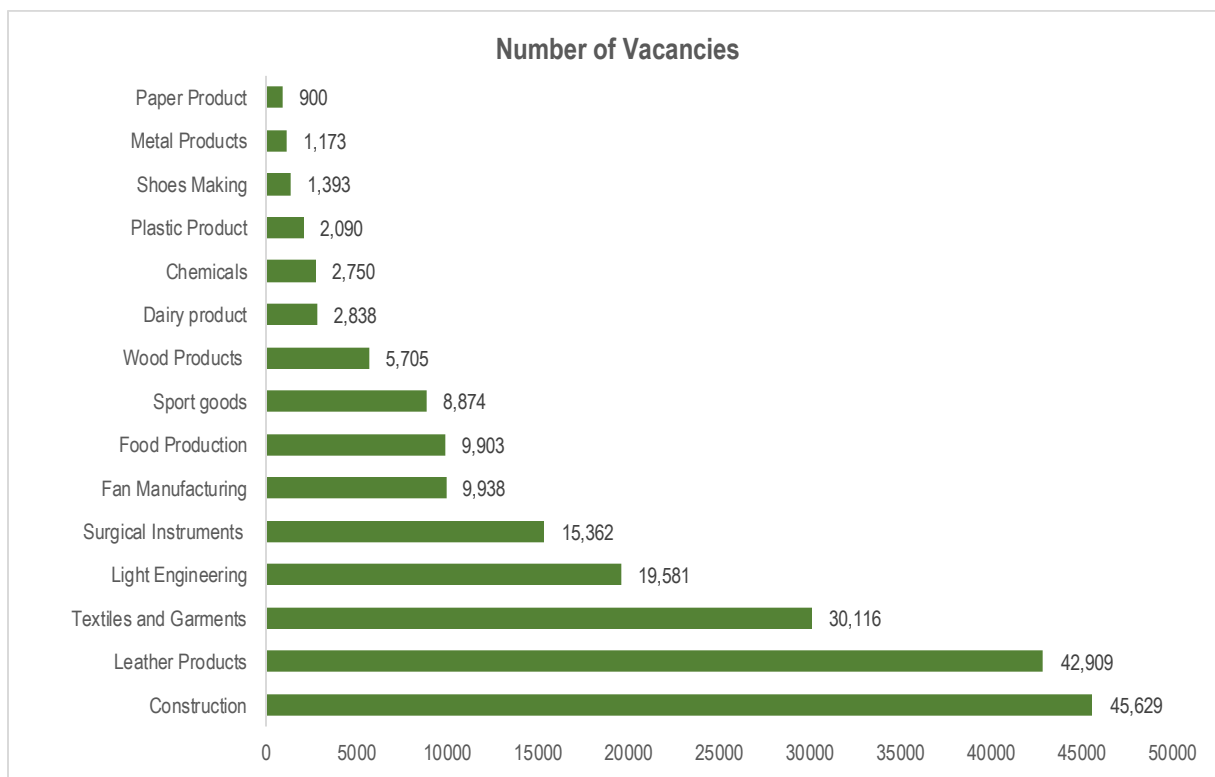
High Demanded Occupations in the Manufacturing Sector

Industrial stitcher is discovered as the leading trade in Punjab with a demand of 37,312 workers in the textile and garment industry. The mere reason for the high demand of industrial stitchers is due to the slight improvement in growth in the textile and garments industry from - 0.12 percent in the year 2019 to 0.28 percent in the year 2020.

Figure 2.9: High demanded occupations in the manufacturing sector
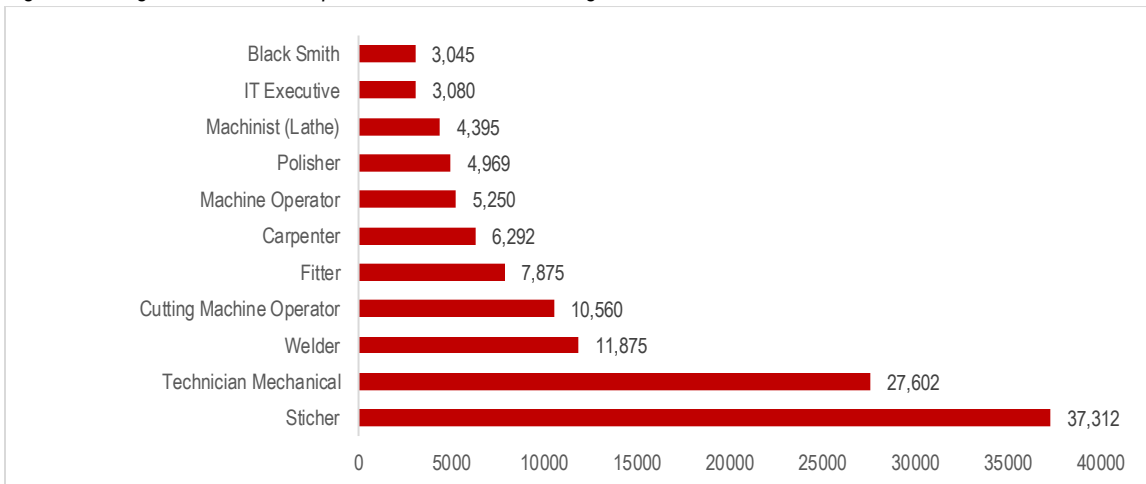
Projection of Workforce Demand in Services Sector

The projected demand for skilled workforce in services sectors is provided in *Figure 2.10* which presents retail and wholesale as the top-most industry which has the potential to provide employment 38,989 skilled workers. The other major industries which can absorb skilled workforce includes hospitality (32,427), automobile servicing (25,203), mechanical servicing (22,050) and personal care (13,120). Least demand has been projected for information technology with 256 job opportunities, the reason for this low demand is the preference of the employer for university graduates than the diploma or certificate holders.
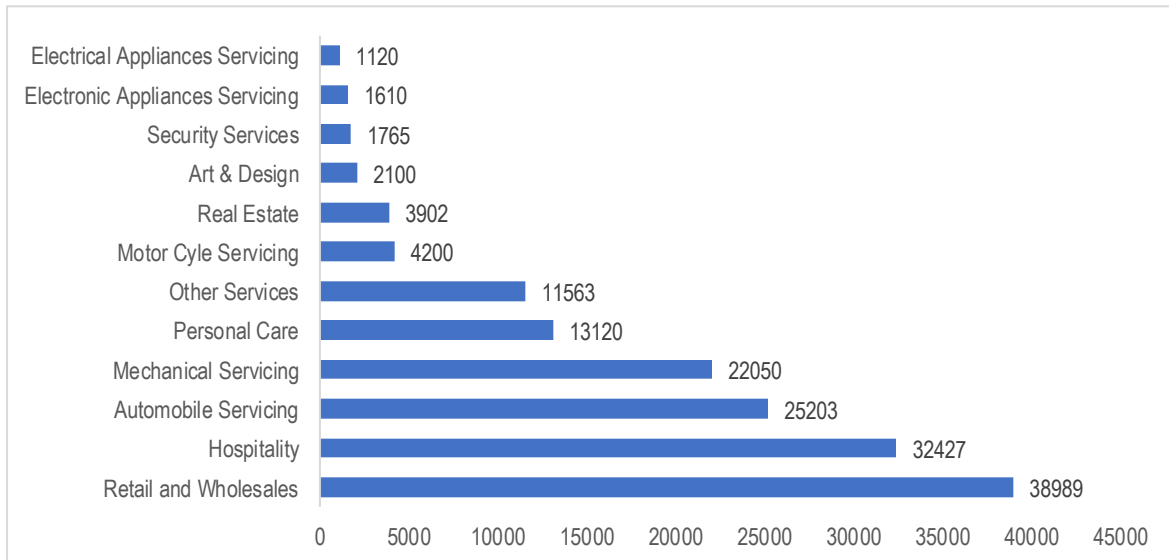
High Demanded Occupations in Services Sector

Salesman, mechanic, electrician, chef, polisher and hair Stylist are the top demanded occupations projected in the services sector with 37,169, 20,940, 10,520, 10,670, 5,430 and 5420 vacancies. respectively. The reason for the high demand for Salesman job is because of the higher growth in the retail and wholesale industry which has remained around 4.9 percent in the last five years. The high demanded occupations in the services sector are shown in *Figure 2.11*.

Figure 2.11: High demanded occupations in the services sector
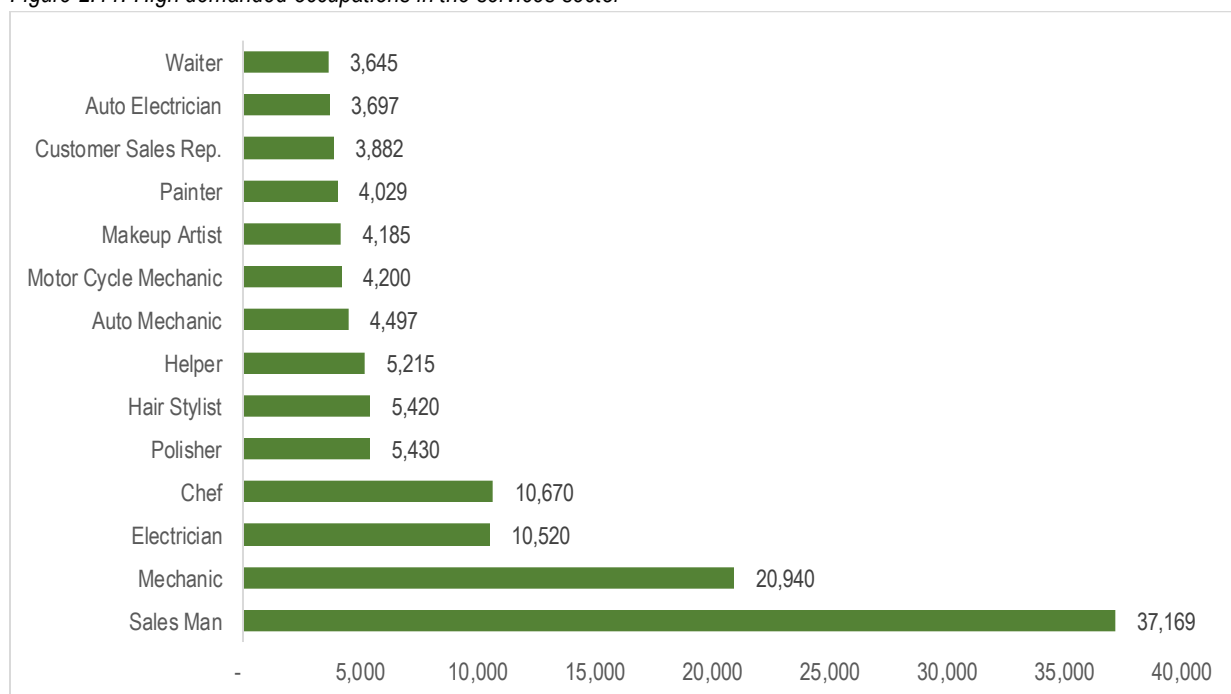
District-wise Leading Trades

Lahore

Trades	No. of Jobs
Helper	19,480
Mechanic	7,000
Hair Stylist	5,420
Chef	5,015
Electrician	4,230
Makeup Artist	4,185
Security Guard	3,536
Kitchen Chef	3,500
Auto Electrician	3,207
Waiter	2,735
Polisher	2,675
Poshish Maker	2,545
Oven	2,345
Designer	2,290
Carpenter	2,245
Welder	2,010
Decorator	1,925
Delivery Boy	1,785
Frying	1,770
Lathe Machine Operator	1,715
Computer Embroidery	1,620
Receptionist	1,400

Faisalabad

Trades	No. of Jobs
Helper	12,145
Mechanic	10,875
Electrician	6,470
Welder	3,970
Fitter	2,675
Cutting Machine Operator	2,450
Auto Mechanic	2,027
Machine Operator	1,680

Motorcycle Mechanic	1,330
Painter	1,158
Polisher	1,010
Motor Mechanic	840
Pant Master	665
Cook	525
Denter	490
Hairdresser	490
Cook	470
Tractor Mechanic	455

Sialkot

Trades	No. of Jobs
Stitcher	37,027
Cutting Machine Operator	6,210
Polisher	5,986
Welder	5,590
Fitter	4,875
Black Smith	3,045
Motorcycle Mechanic	2,870
Disk Operator	2,435
Painter	2,232
Machine Operator	1,995
Lathe Machine Operator	1,860
Auto Painter	1,855
Auto Mechanic	1,750
Printing	1,200
Driver	1,060

Gujranwala

Trades	No. of Jobs
Helper	12,750
Mechanic	3,115
Beautician	1,430
Electrician	805
Hair Cutter	630

Trades	No. of Jobs		Trades	No. of Jobs
Denter	455		CNC Machine Operator	590
Winding	380		Glazing	560
Painter	350		Cutting Machine Operator	545
Designer	260		Decorator	525
Glazing	260		Waiter	500
kiln Operator	260		Soil Testing	480
DAE Civil	220		Electrician	475
Computer Operator	210		Drilling	455
Chef	200			
Cutting Machine Operator	175			

Gujrat

Trades	No. of Jobs
Carpenter	3,220
Mechanic	1,190
Painter	945
Helper	910
Fitter	805
Lathe Machine Operator	770
Benson Cutter	700
Finisher	680
Chezzer Head Operator	665
Winding	665
kiln Operator	640
Polisher	620
Hardware Technician	595

Multan

Trades	No. of Jobs
Machine Operator	1,340
Chef	1,320
Front Disk	1,030
Waiter	905
Draftsman	420
DAE Civil	280
Electrician	260
Plant Operator	240
Concrete Machine Operator	140
Lab Technician	140
Quality Inspector	140
Fabricator	100
Mason	100

Level of Satisfaction

Employers level of satisfaction with the skilled workforce trained in formal TVET system is shown in Figure 2.12. Majority of the employers, accounting to 62 percent, have shown satisfaction with the skills workforce produced by formal TVET system as compared with the non-formal and informal systems. 14 percent of the employers replied that they are not satisfied with the skills demonstrated by the workers trained in formal TVET sector and the remaining 24 percent did not give any response or had no information.

Figure 2.12: Level of satisfaction
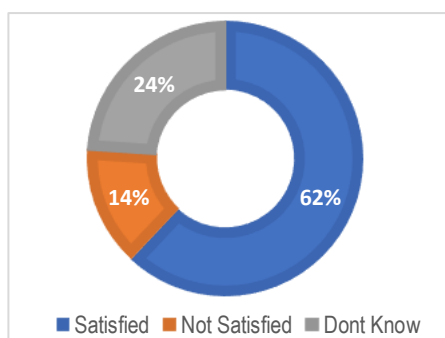
Figure 2.13: Skilled workforce meeting job requirement
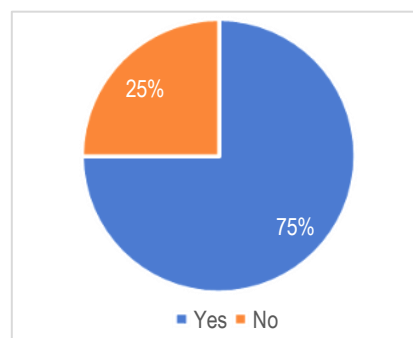
Figure 2.13 shows the results of the responses about the relevance of skills with the job requirements. Over 75 percent of the employer reported that the workforce produced in the formal TVET system meets their requirement and the remaining 25 percent informed that it does not meet their requirement and they have to upskill them before deployment on work.

Recommendations

1. Skilled workforce shortage has been reported in the manufacturing sector especially in textiles, garments, construction and light engineering industries. More resources need to be diverted with a focus on those courses which are in high demand in manufacturing industries.

2. Retail and hospitality have emerged as the growing industries under services sector in Punjab. These industries have a high potential for employment, especially for female workers. Currently, there are few training institutions in the province offering courses relevant to these industries. It is recommended that through public-private partnership leading enterprises in the retail and hospitality industry must be on-boarded to provide training to youth.

3. Demand for female skilled workers has risen from 6 percent in 2018 to 19 percent in 2020 which is an encouraging factor to enhance the female participation rate in the job market. Therefore, TVET authorities in Punjab should align their academic/training plans according to the requirements of the employers.

4. Demand for some trades such as machine operator, packaging machine operator, helper, cutting operator, foreman and lab technician was reported in multiple industries. Skills required for these trades varies in each industry which impedes the development of standardized courses. Therefore, it is recommended that such training programs should be offered through apprenticeship or cooperative training mechanism.

5. Career counselling and job placement services must be strengthened at the institute level by deploying dedicated staff and liaison with employers should be established regularly to ascertain their demand and placement of certified trainees.

6. Employers' register should be maintained in each district office of TEVTA and PVTC so that proper coordination, cooperation and consultation on matters related to training, internship and placement could be made effectively.

7. Regular labour market assessments and employability studies should be conducted to seek the fresh insight of the provincial labour market for evidenced-based TVET policy planning and implementation.

8. A centralized data centre or Punjab Skills Information System (PSIS) should be established integrating TEVTA, PVTC, PSDF, Private TVET institutes, PBTE and TTB that would provide labour demand and supply information to all stakeholders.

9. Business startup training should be made compulsory for all short and long duration courses. Also, business incubation centres should be established in collaboration with the Small and Medium Enterprises Development Authority (SMEDA) to facilitate trainees in self-employment.

Sindh

Characteristics of Existing Workforce

The existing workforce is dominated by male gender in both the formal and informal labour market with a share of 89 percent and 91 percent, respectively. Share of the female workforce in the existing labour market is far below than the male gender as shown in *Figure 3.1*. In terms of sources of skilled workforce supply, the majority of the workforce was trained in the informal training system that accounts for 44 percent of the total existing employed labour. Share of the work-based learning is 39 percent which is the second-largest source of skilled workforce provision. The share of formal TVET sector is only 12 percent which shows there is a huge potential for recognition of skills acquired through the informal and non-formal system.

Figure 3.1: Gender Participation in formal & informal Sector
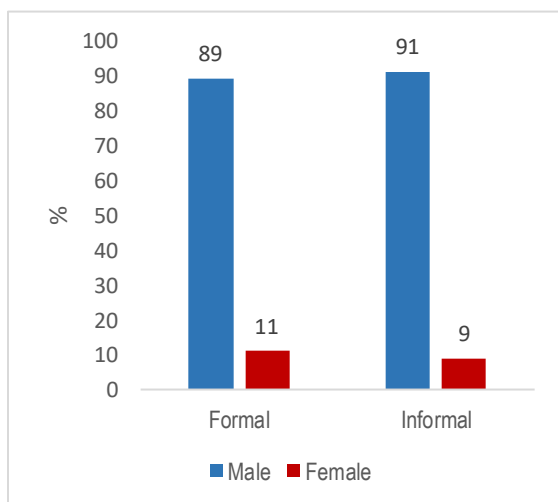
Figure 3.2: Source Wise Existing Skilled workforce
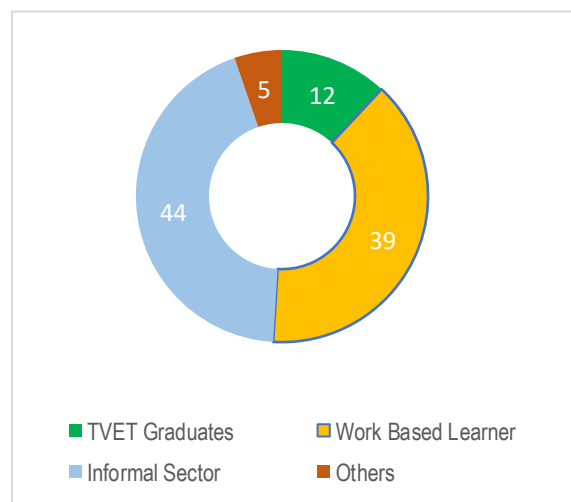
Job Vacancies Available in Labour Market

The results of the analysis revealed that 18,119 job vacancies available at the time of the survey in the job market. The most demanding occupation is Cook with a current demand of 2,133 vacancies. The second most demanded occupation is the Mason in the construction industry with 1,900 job vacancies presently available in the job market. Top demanding jobs have been shown in *Table 3.1.*

Table 3.1 Job vacancies available in the labour market

Occupations	Vacancies
Cook	2,133
Mason	1,900
Stitching Machine Operator	1,475
Waiter	1,205
Chef	1,066
Plumber	846
Electrician	798
Cutting Machine Operator	789
Carpenter	753
Shuttering Carpenter	697
Driver	675
Tile Fixer	617
Painter	390
Over Lock Machine Operator	373
Cashier	349
Gardner	332
Accountant	318
Boiler	310
Storekeeper	309
Network Technician	244
Knitting Machine Mechanic	165

Skilled Workforce Shortages

Highest skilled workforce shortage has been reported in manufacturing sector with a share of 64 percent while the share of services sector is 36 percent as shown in *Figure 3.3*. In terms of district-wise deficiency of skilled workforce, more vacancies exist in Korangi i.e. 44 percent followed by Jamshoro (25 percent), Korangi (16 percent), Sukkur (7 percent), Jamshoro (6 percent) and Korangi (1 percent).
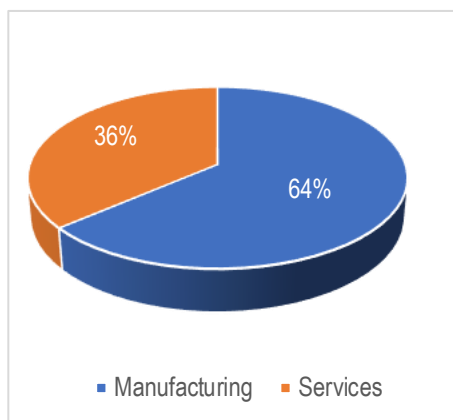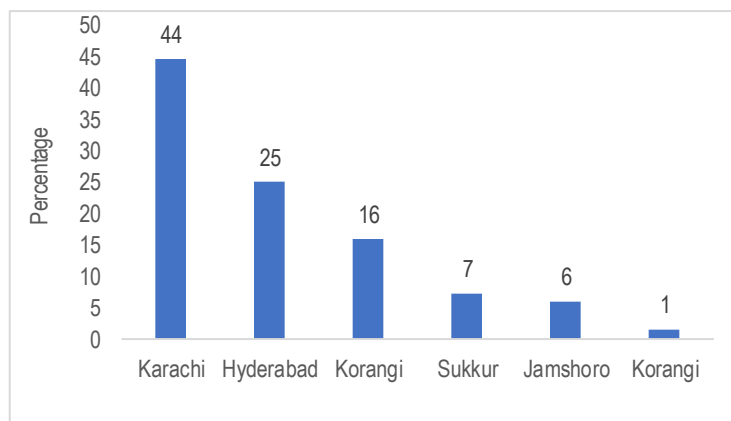
Future Skilled Workforce Demand

Figure 3.5 shows the future workforce demand for Sindh province in selected districts which is estimate up to 207,692. High demand has been projected in Karachi where there is concentration of business activities in textiles, garments and construction sectors. The accumulative demand for Karachi (Karachi South, Karachi Central, Karachi Malir, and Korangi) is 132,640 in both the manufacturing and services sectors. Future workforce demand for Hyderabad has been anticipated up to 55,649 comprising 31 percent of job vacancies for women skilled workforce.

Figure 3.5: Future workforce demand for Sindh
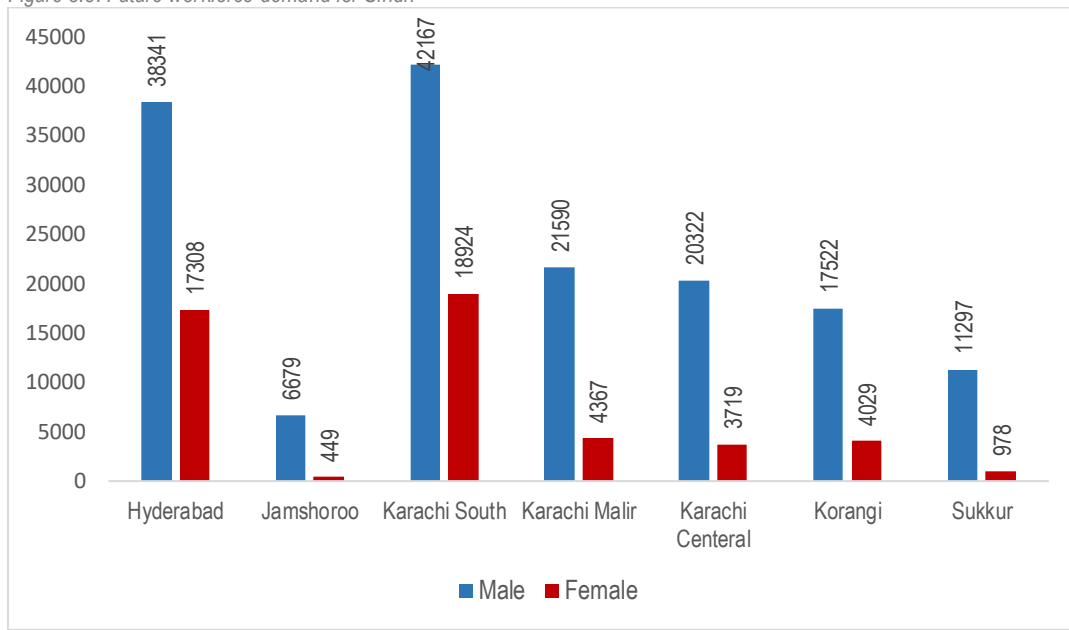
Gender-wise Workforce Demand

The gender-wise demand for the future skilled workforce requirement is shown in *Figure 3.6*.

The male gender dominates the future workforce demand with a share of 66 percent in total demand of the Sindh province. The female skilled workforce demand is 34 percent of the total future demand which is almost half of the demand of the male gender. The demand of female gender is much improved in Sindh than Punjab (19 percent) and Baluchistan (5 percent). The reason of high demand of female gender in Sindh is rising demand of workforce in garments and hospitality industries where share of female gender is comparatively higher than other industrial sectors.
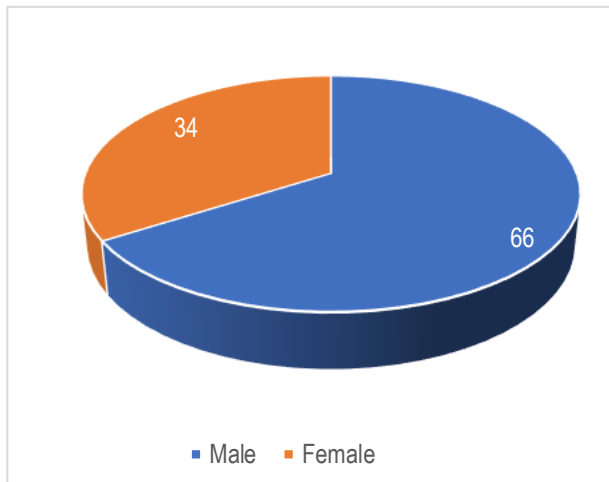
Sector-wise Demand of Skilled Workforce

Services sector dominates in terms of future demand with 129,677 of skilled workforce which is 62 percent of the total demand i.e. 207,792 for the districts surveyed in Sindh province. The share of manufacturing sector in future workforce requirement is 38 percent with a count of 78,115 vacancies in industries. Further bifurcation of sub-sectors, industries and occupations is mentioned in succeeding paragraphs.
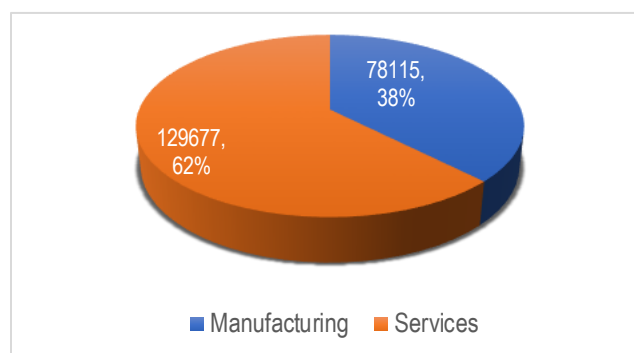
Projection of Workforce Demand in the Manufacturing Sector

The skilled workforce requirements in each sub-sector under the manufacturing sector is shown in *Figure 3.8*. The construction industry has emerged as the leading sub-sector with a potential of 41,273 vacancies followed by garments (40,005), textiles (17,773). Light engineering, paper products, metal, shoes making, plastic products, chemicals and dairy products reported skilled workforce demand below 3,000 vacancies.

Figure 3.8: Projection of future workforce demand in the manufacturing sector
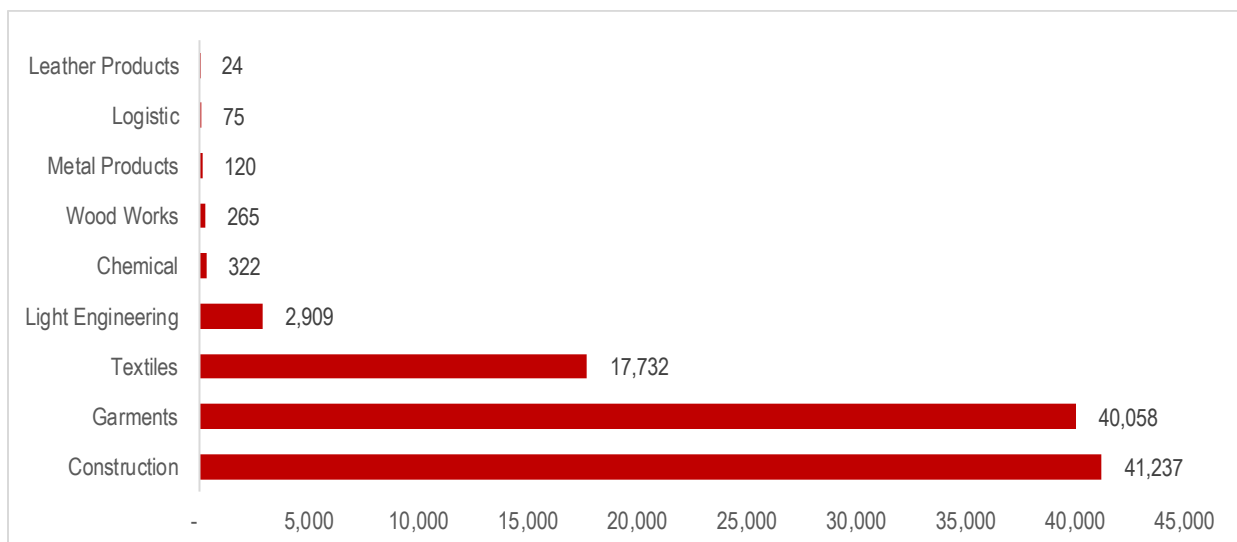
Sector	Value
Leather Products	24
Logistic	75
Metal Products	120
Wood Works	265
Chemical	322
Light Engineering	2,909
Textiles	17,732
Garments	40,058
Construction	41,237

High Demanded Occupations in the Manufacturing Sector

Top demanded occupations in the manufacturing sector are shown in Figure 3.9. Highest demand has been anticipated for Helper with 16,839 vacancies followed by Garment Stitcher (10,923), Mechanical Technician (9,674), Electrician (7,623) and Machine Operator (7,623). The skillsets for Helper and Machine Operator are not clear as both trades fall into many industries, therefore, in-formal training pathways such as industry-based training would be appropriate for these trades.

Figure 3.9: High demanded occupations in the manufacturing sector
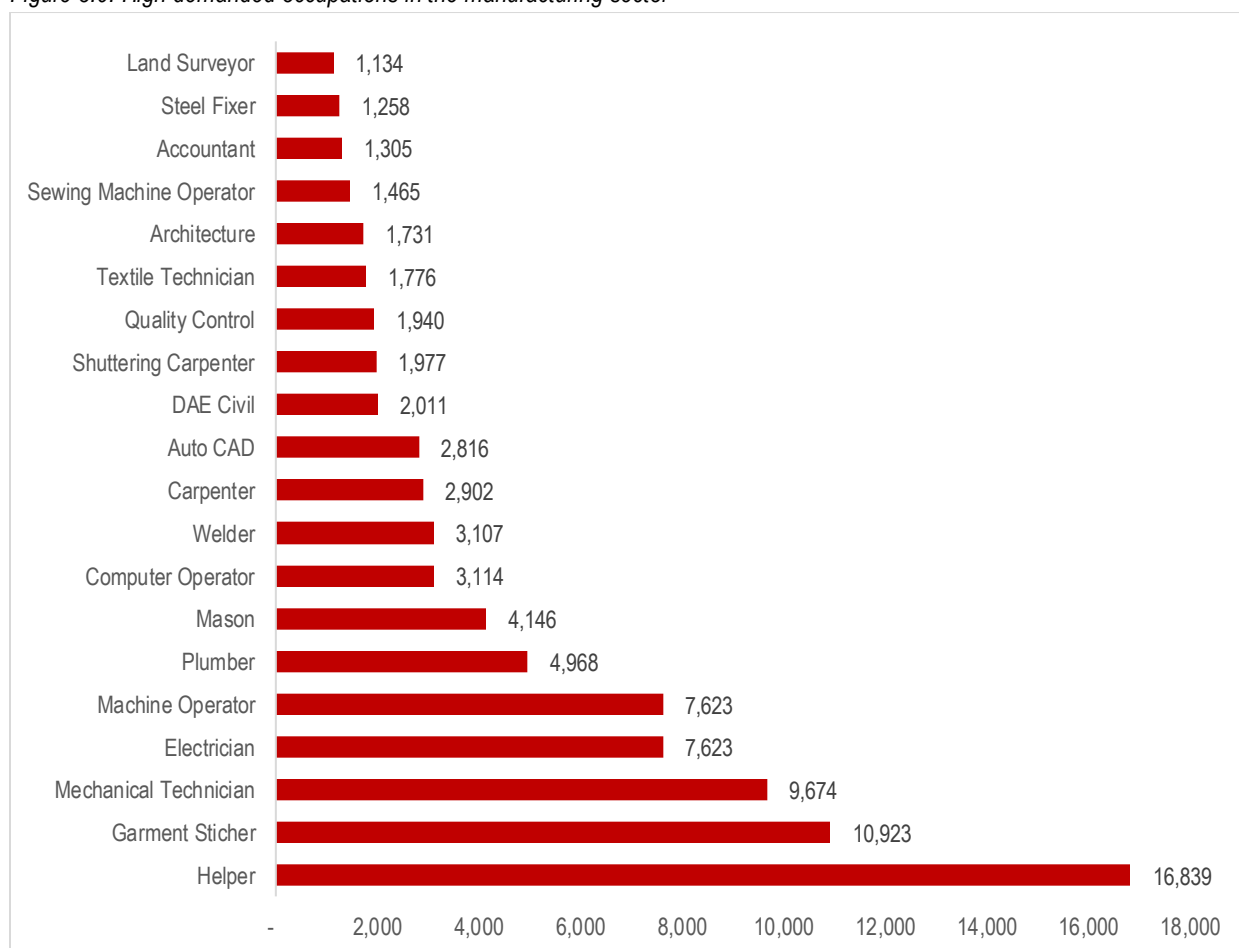
Further breakup in respect of helper and machine operator has been provided in Table 3.2, as these occupations relate to various industries and contain distinct skill sets.

Occupation	Construction	Garments/Textile	Hospitality	Services	Plastic	Steel	Total
Helper	0	85	62	16287	72	333	16,839
Machine Operator	471	3148	103	1084	0	624	7,623

Projection of Workforce Demand in Services Sector

The projected demand for skilled workforce in services sectors is provided in *Figure 3.10* which presents hospitality as the top-most industry which has the potential to employ 55,119 skilled workers. The other major industries which can absorb skilled workforce includes automobile servicing (17402), and garments (12,292).

Figure 3.10: Projection of future workforce demand in the services sector
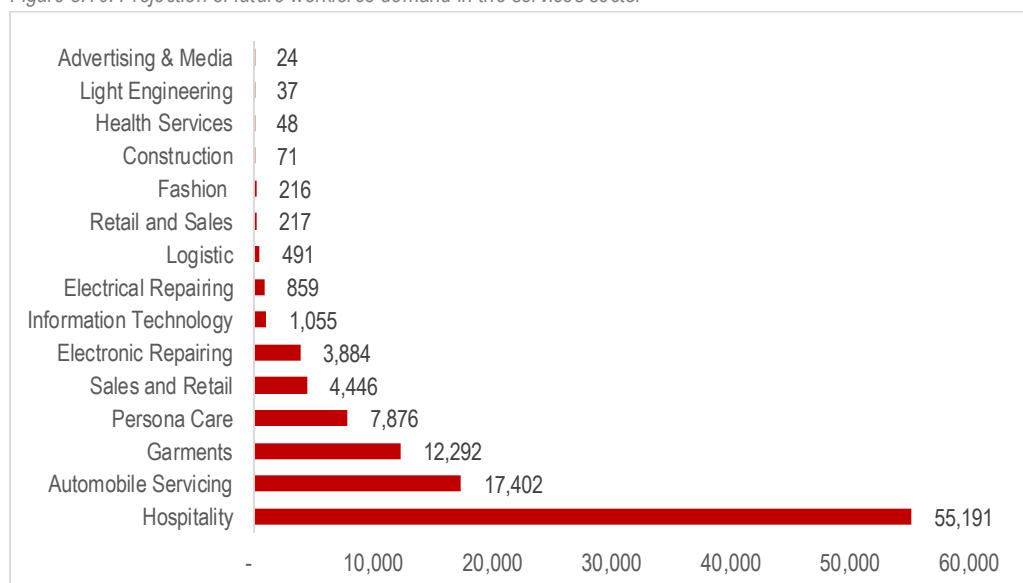
Advertising & Media	24
Light Engineering	37
Health Services	48
Construction	71
Fashion	216
Retail and Sales	217
Logistic	491
Electrical Repairing	859
Information Technology	1,055
Electronic Repairing	3,884
Sales and Retail	4,446
Persona Care	7,876
Garments	12,292
Automobile Servicing	17,402
Hospitality	55,191

High Demanded Occupations in Services Sector

The workforce demand in the services sector is dominated by the hospitality industry occupations such as Cooking and Baking and Waiter with 18,314 and 12,441 job vacancies, respectively. The projected demand for Tailor, Automobile Mechanic and Hairdresser which are informal sector trades is 12,292, 11,979 and 5,490, respectively. List of high demanded occupations with the number of job vacancies is shown in *Figure 3.11.*

Figure 3.11: High demanded occupations in the services sector
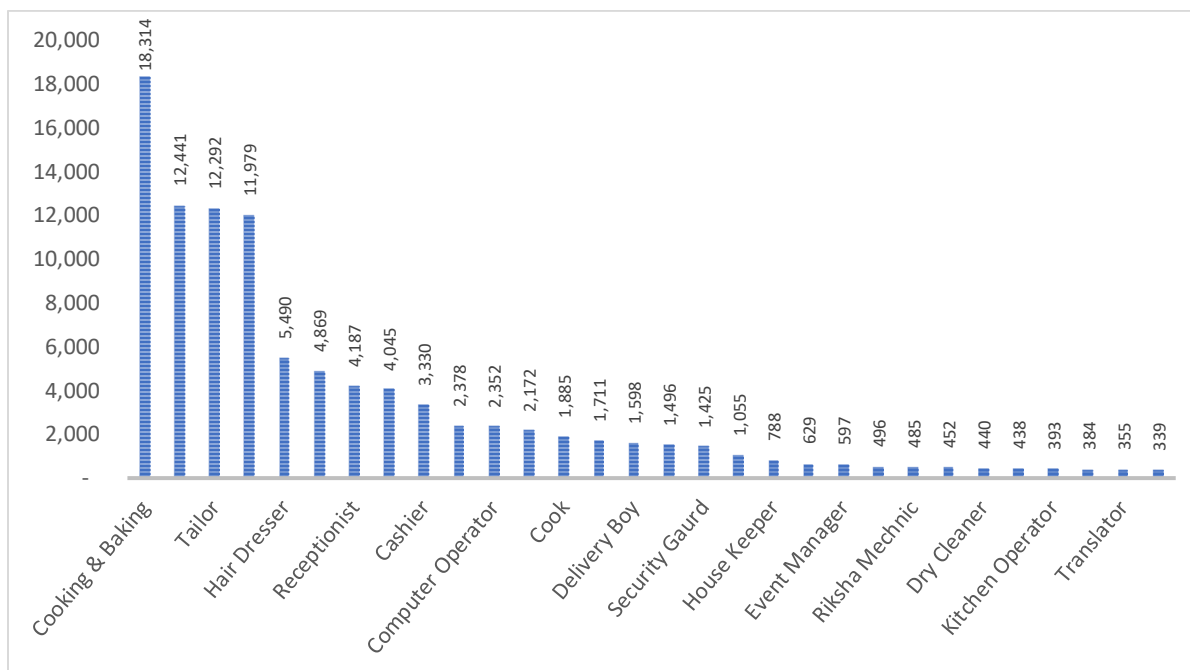
District-wise Leading Trades

Karachi

Trade	No. of Jobs
Electrician	6,156
Machine Operator	5,048
Sales & Marketing	5,048
Computer Operator	4,266
Tailor	3,701
Motorcycle Mechanic	2,985
Receptionist	2,931
Helper	2,734
Auto CAD Operator	2,146
DAE Textile	1,756
Cashier	1,699
Shuttering Carpenter	1,617
Accountant	1,605
Delivery Boy	1,532
Sewing Machine Operator	1,490
Stitching Machine Operator	1,249
security guard	1,189

Trade	No. of Jobs
Architecture	1,149
Quality Control	1,149
Mason	1,093
Floor In-charge	1,076
Restaurant Manager	1,055
Plumber	1,052
Cook	1,018
Hairdresser	974
Land Surveyor	943
Welder	943
DAE Civil	933
Carpenter	932
Boiler Attendant	903
Tailor	898
Beautician	893
R & A.C	803
Paint Polish	746
Power Loom Operator	744
Mixture Machine Operator	728

Material Technician	713
Hairdresser	668
Cost Estimator	654
Steel Fixer	652
Supervisor	630
Auto Mechanic	608
Cooking & Baking	597
Draftsman	592
Quantity Surveyor	565
Mobile Repair	530
Event Manager	523
Chef	513
Driver	487
HVAC	469
Dry Cleaner	440
DAE Information Technology	438
Rikshaw Mechanic	411
Kitchen Operator	393
Civil Surveyor	372
Translator	355
Generator Mechanic	319
Mechanic Heavy Machinery	315
Mason	308
Milling Machine Operator	303

Hyderabad

Trade	No. of Jobs
Waiter	5,918
Cooking & Baking	4,440
Tailor	4,321
Plumber	3,916
Mason	2,708
Auto Mechanic	2,279
Hairdresser	2,211
DAE Chemical	2,124
Beautician	2,025
Carpenter	1,705
Welder	1,662
Accountant	1,642

Machine Operator	1,431
Receptionist	1,357
Computer Operator	1,272

Jamshoro

Trade	No. of Jobs
Helper	2,734
Tailor	898
Hairdresser	668
Auto Mechanic	608
Cooking & Baking	597
Mason	308

Sukkur

Trade	No. of Jobs
Tailor	3,372
Auto Mechanic	2,564
Hairdresser	1,637
Electrician	1,135
Mobile Repair	963
Welder	481
R&AC	428
Motor Mechanic	310
Wood Maker	191
Jewellery Making	168
Water Motor Mechanic	148
Printer Mechanic	140
Automobile Painter	122
AC Mechanic	119
Cook	117

Level of Satisfaction

Employers level of satisfaction with the skilled workforce trained in formal TVET system is shown in Figure 3.12. Majority of the employers, accounting to 62.1 percent, have shown satisfaction with the skills workforce produced by formal TVET system as compared with the non-formal and informal systems. 10.2 percent of the employers replied that they are not satisfied with the skills demonstrated by the workers trained in formal TVET sector and the remaining 27.7 percent did not give any response or had no information. When asked about the relevance of skills workforce with the job requirements, 39 percent of the employer responded that the workforce produced in formal TVET system meets their requirement and the remaining 61 percent informed that it does not meet their requirement for which they have to further train them.

Figure 3.12: Level of satisfaction
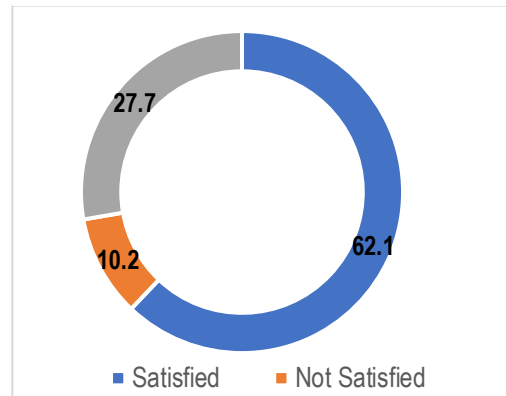
Figure 3.13: Skilled workforce meeting job requirement
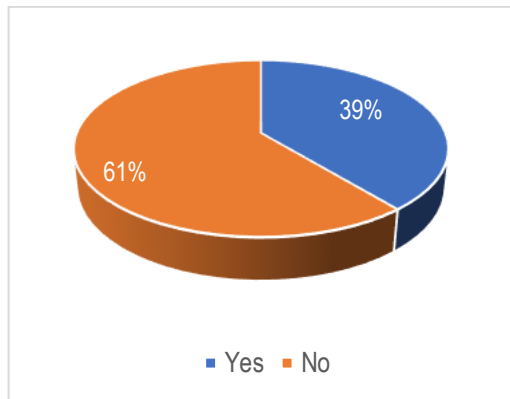
Recommendations

1. Manufacturing sector in Sindh leads with construction, garments and textiles industries in terms of employment potential. Whereas, hospitality industry dominates the services sector in provincial job market as per the results of this study. Considering the limited training capacity and low employability rate of the formal TVET institutes, public private partnership to offer trainings in enterprises would be a suitable policy option for Sindh.
2. Share of existing workforce trained in informal sector is substantially high as compared to formal TVET institutes. It is recommended that TVET institutes should offer skills testing i.e. Recognition of Prior Learning (RPL) to existing workforce to maintain balance in the provincial labour market.
3. A supply and demand mapping exercise must be conducted at strategic level based on the findings of this study to address the mismatches and shortages of skilled workforce in Sindh.

4. Workable industry linkages should be established at provincial level that may facilitate in key areas such as ascertaining the workforce requirements, enterprise-based trainings, industrial trainings of teachers and placement of certified trainees etc.

5. Career counselling and job placement services need to be strengthened by deploying dedicated staff and close liaison with industry must be established.

6. Integration of management information systems of Sindh TEVTA, Sindh Board of Technical Education (SBTE) and Sindh Trade Testing Board (STTB) should be done on priority basis to get accurate data on workforce trained, certified and placed in industry.

7. Although the employers showed greater level of satisfaction on the workforce trained in formal TVET system as compared to informal and non-formal systems, but they raised serious concerns over the quality and relevance of the skills imparted in TVET institutes. Therefore, there is a need to review the contents, duration, resources and methodology used for the training programs.

8. Business start-up training should be made compulsory for all the short and long duration courses. Also, business incubation centres should be established in collaboration with Small and Medium Enterprises Development Authority (SMEDA) to facilitate trainees in self-employment.

Baluchistan

Characteristics of Existing Workforce

Existing workforce is dominated by male gender in both the formal and informal labour market with a share of 86 percent and 93 percent, respectively. Share of the female workforce in the existing labour market is far below than the male gender as shown in *Figure 4.1*. In terms of sources of skilled workforce supply, the majority of the workforce was trained in the informal training system that accounts for 58 percent of the total existing employed labour. Share of the work-based learning is 23 percent which is the second-largest source of skilled workforce. Over 13 percent of the existing employed workforce received formal training in TVET institutes and the remaining 6 percent were trained from other sources.

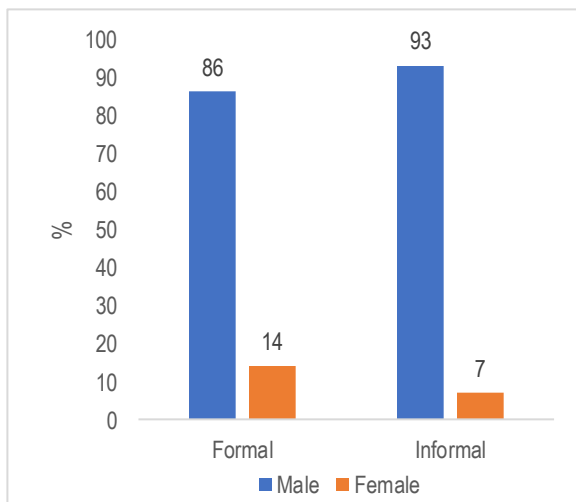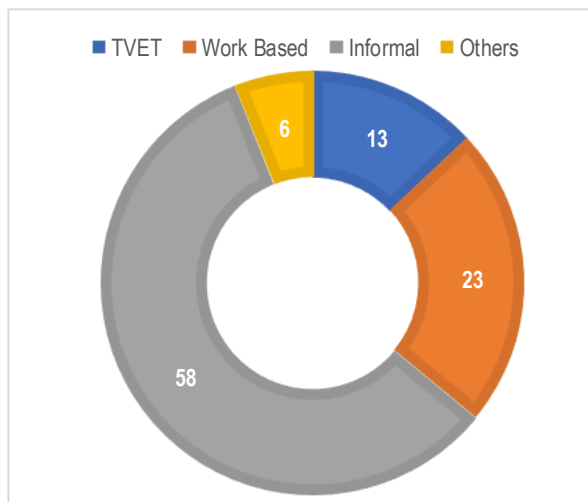*Figure 4.1: Gender Participation in formal & informal Sector*

Figure 4.2: Source Wise Existing Skilled workforce

The findings of the survey illustrate that over 80 percent of the workforce in Baluchistan is trained through informal and non-formal learning pathways, as shown in Figure 4.2, which means there is a significant potential for formal TVET system to enhance its enrolment

capacity to provide a certified workforce to the job market. Besides, the workforce trained through informal and non-formal learning pathways can be formally recognized through Recognition of Prior Learning (RPL) by providing the gap training and skills testing.

Job Vacancies Available in Labour Market

At the time of the survey, 66,531 job vacancies were available in the districts Baluchistan. The most demanding occupation is Machine Operator with 12,278 vacancies followed by Packaging Machine Operator, Electrician, Fitter, Waiter and Welder with 11,525, 6,202, 4,607, 3,798, and 2,499 job opportunities, respectively. List of job vacancies available in Baluchistan is shown in *Table 4.1*.

Table 4.1 Job vacancies available in the labour market

Occupations	Vacancies
Machine Operator	12,278
Packaging Machine Operator	11,525
Electrician	6,202
Fitter	4,607
Waiter	3,798
Welder	2,499
Vertical Machine Operator	2,431
Cook	2,407
Plumber	2,073
Cutting Operator	2,033
Polisher (Marble/Granite)	2,027
Foreman	1,949
Weaver	1,892
Mechanical Technician	1,883
Chef	1,684
Generator Mechanic	1,606
Quality Control	1,588
Crane Operator	1,541
Lab Technician	1,537
Accountant	971

Some job titles are too vague and do not specify the skills requirements e.g. Machine Operator, Packaging Machine Operator, Helper, Cutting Operator, Foreman and Lab Technician. Hence, further analysis was conducted to precisely define the demand for each occupation in each industrial sector which is as under:

Table 4.2: Industry-wise vacant positions in key occupations

Occupations	Construction	Textile	Chemical	Food Production	Plastic	Services	Fisheries	Steel	Total
Cutting Operator	0	0	0	0	0	1,233	0	800	2,033
Foreman	0	278	268	526	355	0	0	522	1,949
Helper	5,362	0	108	4,317	2,211	1,198	0	2,348	15,544
Lab Technician	229	190	287	256	0	575	0	0	1,537
Machine Operator	2,893	2,340	671	3,240	786	1,045	303	1,000	12,278
Packing Operator	322	2,247	890	4,178	2,321	1,567	0	0	11,525
Quality Control	76	334	431	478	153	60	56	0	1,588

Skilled Workforce Shortages

Highest skilled workforce shortage was reported in the manufacturing sector with a share of 82 percent while the share of the services sector was only 18 percent as shown in *Figure 4.3*. In terms of district-wise deficiency of skilled workforce, more vacancies exist in Lasbella i.e. 44 percent followed by Quetta (22 percent), Gwadar (20 percent), Sibi (10 percent), Qilla Abdullah (4 percent) and others[5] (10 percent).

Figure 4.3: Sector-wise Workforce Shortages
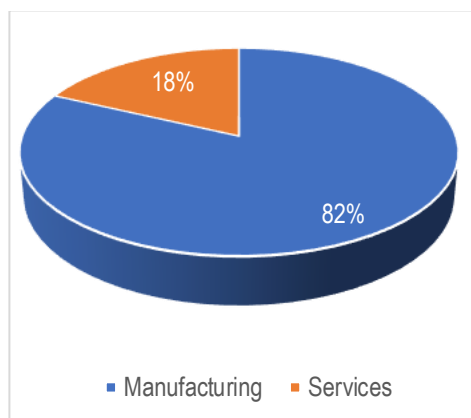
Figure 4.4: District Wise Workforce Shortages

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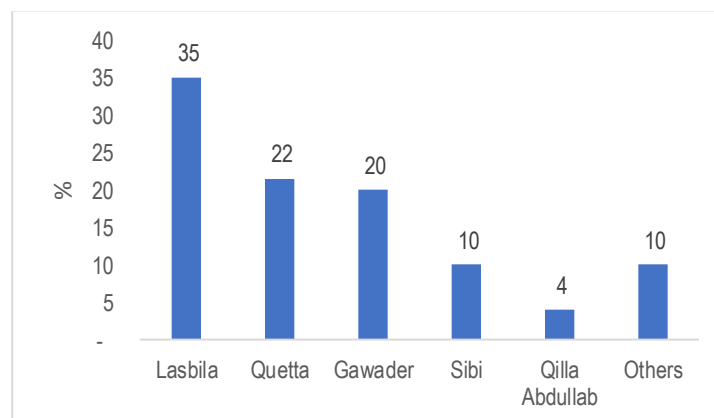
[5] Pishin, Khuzdar, Kalat and Zhob

Future Skilled Workforce Demand

Figure 4.5 shows the future workforce demand for Baluchistan which is 149,440. The highest demand for the workforce has been projected for Lasbella with 67,335 job opportunities out which 9.2 percent of vacancies pertains to the female gender. Workforce demand for Quetta and Gwadar has been anticipated up to 35,533 and 19,933 workers, respectively.
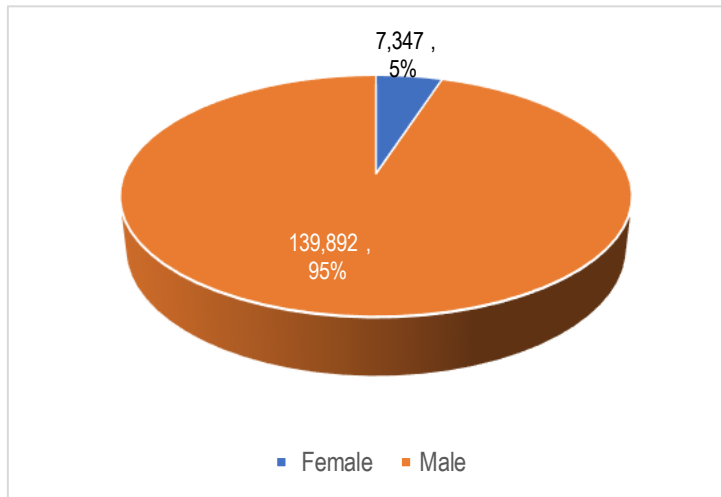
Figure 4.5: Gender & District Wise Demand
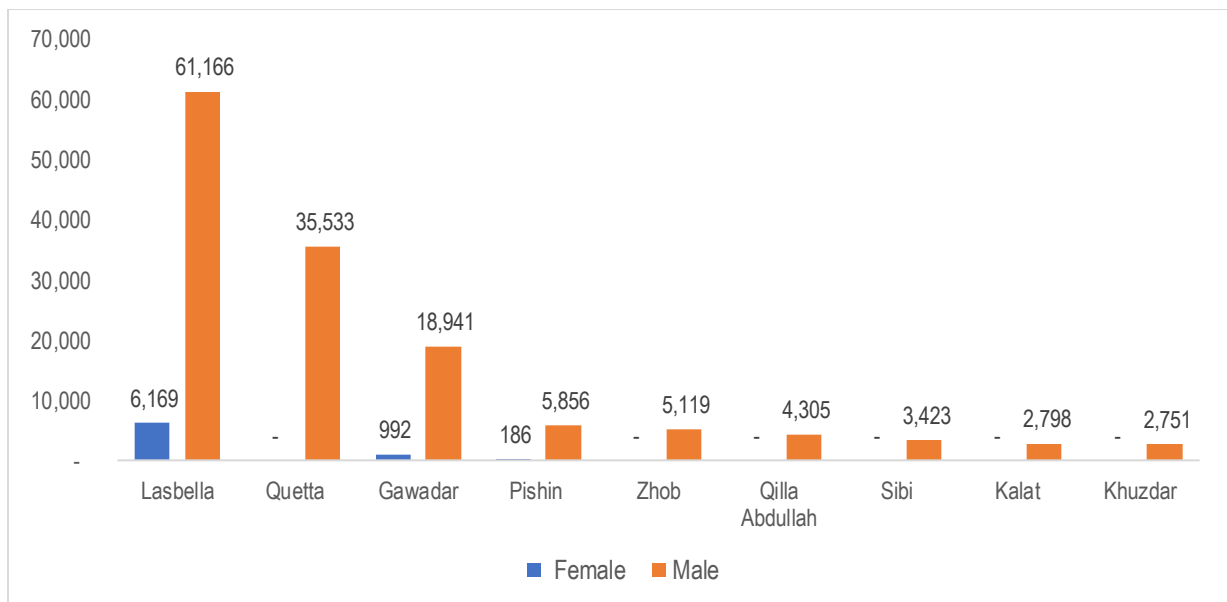
Gender-wise Workforce Demand

The gender-wise demand for the future skilled workforce requirement is shown in *Figure 4.6*. The male gender dominates the future workforce demand with a share of 95 percent in total demand of the Baluchistan. The female skilled workforce demand is only 5 percent of the total future demand which is highly insignificant. The reason of this low demand for female skilled workforce can be attributed to the fact that majority of the demand has been reported in manufacturing sector industries such as construction, food production, textiles and steel which are intensified with the male workforce.

Sector-wise Demand for Skilled Workforce

Manufacturing sector dominates in terms of future demand with 94,883 job opportunities for the skilled workforce which is 64 percent of the total demand i.e. 149,440 of the provinces as shown in Figure 4.7. The share of the services sector in future workforce requirement is 30 percent with a count of 44,949 vacancies in various occupations. Least demand, 6 percent (9,608 employment opportunities) of total future skilled workforce

requirement, has been projected in the fisheries sector which is an important contributor in Baluchistan's economy.
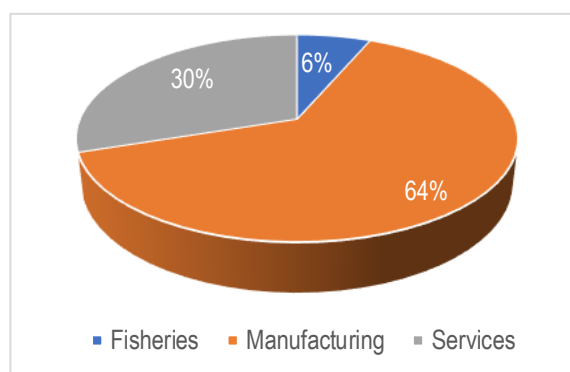
Projection of Workforce Demand in the Manufacturing Sector

The skilled workforce requirements in each sub-sector under the manufacturing sector is shown in *Figure 4.8*. The construction industry has emerged as the leading sub-sector with a potential of 28,407 vacancies followed by food production, textiles, steel and pharmaceutical with an anticipative capacity to absorb 18,994, 15,564, 10,000 and 7,045, respectively. Industries indicated the least demand for workforce includes metal & metal products, garments, paper product, energy & power, light engineering, cosmetics, plastic and chemicals wherein future workforce requirement is less than 5,000 workers.

Figure 4.8: Projection of future workforce demand in the manufacturing sector
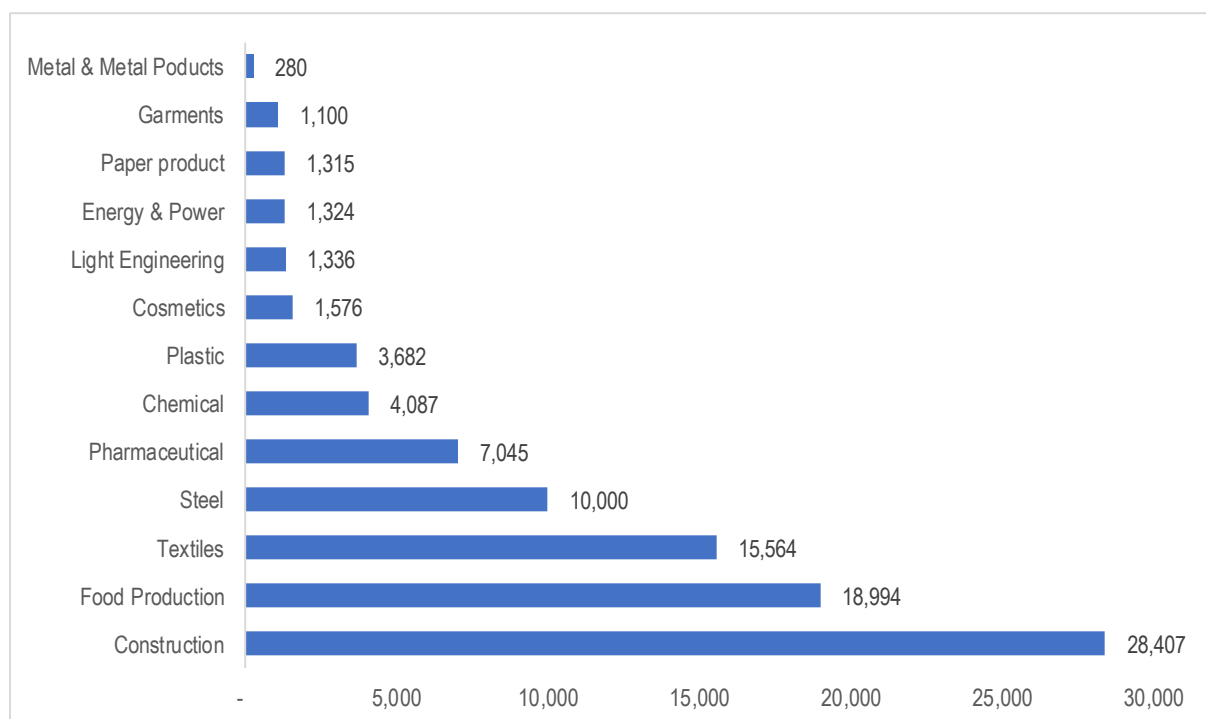
High Demanded Occupations in the Manufacturing Sector

Top demanded occupations in the manufacturing sector are shown in *Figure 4.9*. Highest demand has been anticipated for Helper with 16,839 vacancies followed by Garment Stitcher (10,923), Mechanical Technician (9,674), Electrician (7,623) and Machine Operator (7,623). The skillsets for Helper and Machine Operator are not clear as both trades fall into many industries, therefore, in-formal training pathways such as industry-based training would be appropriate for these trades.

Figure 4.9 High demanded occupations in the manufacturing sector
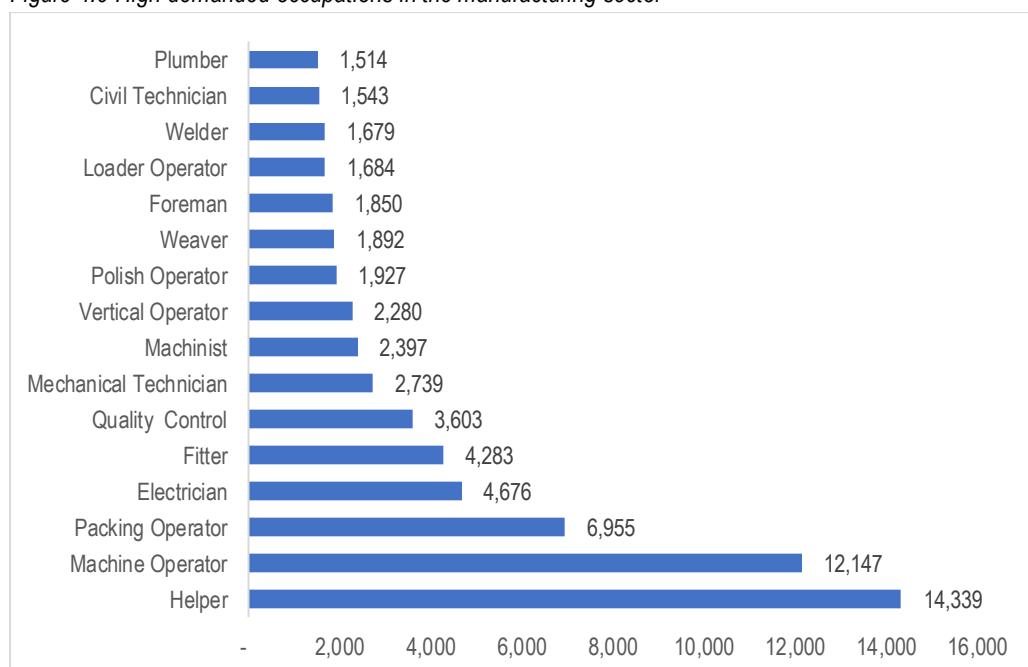
Occupation	Value
Plumber	1,514
Civil Technician	1,543
Welder	1,679
Loader Operator	1,684
Foreman	1,850
Weaver	1,892
Polish Operator	1,927
Vertical Operator	2,280
Machinist	2,397
Mechanical Technician	2,739
Quality Control	3,603
Fitter	4,283
Electrician	4,676
Packing Operator	6,955
Machine Operator	12,147
Helper	14,339

Projection of Workforce Demand in Services Sector

The projected demand for skilled workforce in services sectors is provided in *Figure 4.10* which presents hospitality as the top-most industry which has the potential to employ 55,119 skilled workers. The other major industries which can absorb skilled workforce includes automobile servicing (17402), and garments (12,292).

Figure 4.10: Projection of future workforce demand in the services sector
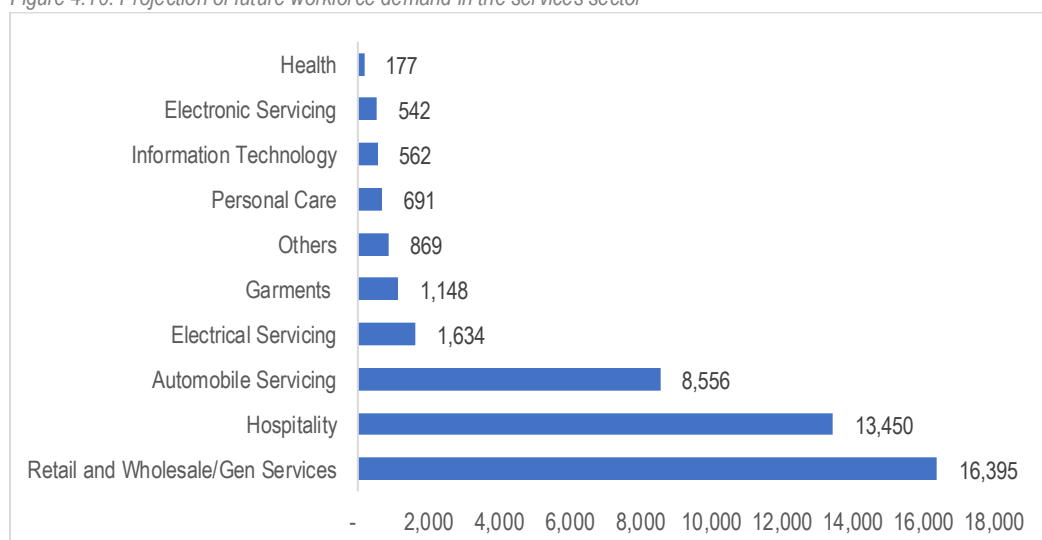
Industry	Value
Health	177
Electronic Servicing	542
Information Technology	562
Personal Care	691
Others	869
Garments	1,148
Electrical Servicing	1,634
Automobile Servicing	8,556
Hospitality	13,450
Retail and Wholesale/Gen Services	16,395

High Demanded Occupations in Services Sector

The workforce demand in the services sector is dominated by the hospitality industry occupations such as Cooking and Baking and Waiter with 18,314 and 12,441 job vacancies, respectively. The projected demand for Tailor, Automobile Mechanic and Hairdresser which are informal sector trades is 12,292, 11,979 and 5,490, respectively. List of high demanded occupations with the number of job vacancies is shown in *Figure 4.11*.

Figure 4.11: High demanded occupations in the services sector
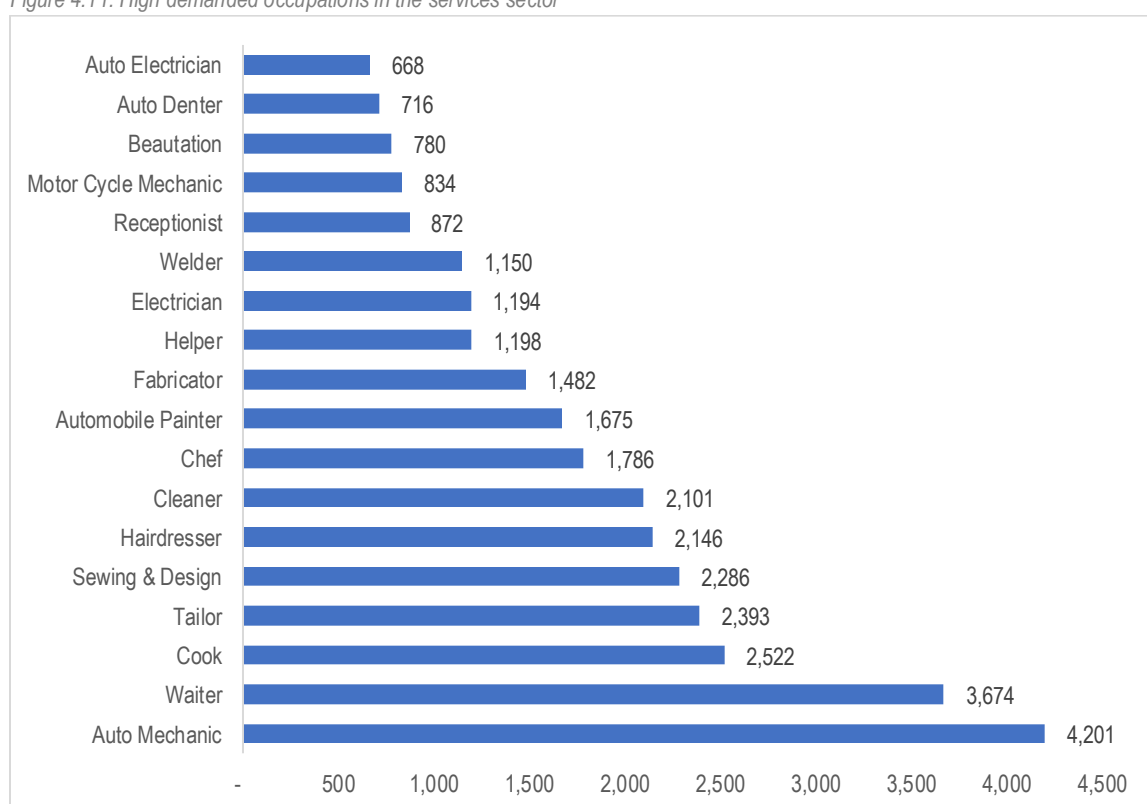
District-wise Leading Trades

Quetta

Trades	Demand
Helper	12,390
Quality Control	1,967
Cleaner	1,864
Chef	1,786
Electrician	1,691
Packing Operator	1,363
Welder	1,021
Automobile Painter	968
Office Assistant	937
Civil Technician	886
Waiter	859
Machinist	773
Foreman	762
Sewing & Design	759
Auto Mechanic	666
Tailor	499
Plant Operator	485
Lineman (ATs)	411
Receptionist	387
Stitcher	385
Aluminium Fabricator	377
Carpenter	365
Hairdresser	322
Mechanical Technician	316
Dish Washer	315
Beautician	313
Graphic Designer (ATs)	302
Auto Electrician	267
Fabricator	254
Water Plant Manager	221
Cook	192
Plumber	178
Polisher	131
Glasswork	130

U.P.S Technician	129
Automobile Denter	126
Restaurant Manager	116
Motor Mechanic	113
Woodwork	109
Lab Technician	104

Gwadar

Trade	Demand
Packing Operator	4,360
Driver	1,472
Accountant	1,371
Electrician	1,208
Cook	1,198
Freezing Machine Operator	1,178
Waiter	1,043
Plumber	1,002
Generator Mechanic	901
Tailor	519
Automobile Painter	515
Civil Technician	310
Civil Surveyor	303
Painter	298
RAC	297
Dish Washer	261

Kalat

Trades	Demand
Hairdresser	491
Auto Mechanic	482
Tailor	279
Electrician	256
Decorator	226
Transformer Mechanic	171
Fabricator	120
Beautician	117

Trades	Demand
Sewing & Design	95
Sales & Marketing	82
Welder	78
Auto Electrician	50
Lathe Machine Operator	49

Khuzdar

Trades	Demand
Auto Mechanic	240
Vertical Operator	192
Fabricator	191
Designer	162
Section Machine Optr.	141
Painter	127
Tailor	127
Electrician	113
Caseris Operator	96
Crane Operator	96
Hairdresser	80
Winder	80
Welder	65
Sizer Machine Operator	63

Lasbella

Trades	Demand
Machine Operator	12,083
Packing Operator	5,802
Fitter	4,619
Electrician	2,977
Mechanical Technician	2,424
Vertical Operator	2,088
Polish Operator	1,927
Weaver	1,892
Machinist	1,781
Quality Control	1,636
Loader Operator	1,527
Lab Technician	1,435
Fabricator	1,317
Welder	1,231
Crane Operator	1,207
Sewing & Design	1,101
Foreman	1,088

Trades	Demand
Mixture Machine Operator	1,016
Sizer Machine Operator	936
Waiter	884
Filling Operator	810
Tankman	796
Maintenance Technician	701
Grinding Machine Operator	672
Sorter	669
Gaz Lock	611
Generator Mechanic	606
Boiler Operator	597
Sharing Operator	552
Plant Operator	547
Food Technologist	545
Cook	524
Pharma D	515
Auto Mechanic	457
Gas Cutter Operator	422
Toaster Machine Operator	420
Plumber	413
Punching Operator	344
Mason	342
Hairdresser	332
Receptionist	328
Designer	317
Spinner	301
Ruler Operator	274
Loom Weaver	273
Oven Operator	233
Cleaner	229
Pressing Operator	227
Ginning Pressing Operator	224
Sales & Marketing	214
Cutter	203
Painter	201
Mill Operator	188
Q.C Lab Technician	187
Food Processor	182
Electrical Technician	175
Technical Mechanical	173
Drawing	168

Tailor	165
Computer Operator	157
Lifter Operator	156
Printer Operator	156
Grader Operator	153

Baking & Pastries	322
Painter	224
Welder	190
Motor Winder	186
Glass work	127
Machine Operator	78
Driver	50

Pishin

Trades	Demand
Helper	2,017
Spray Painter	444
Automobile Denter	416
Auto Mechanic	412
Security Guard	397
Accountant	278
Hairdresser	223
Civil Technician	191
Electrician	188
Beautician	187
Supervisor	174
Driver	164
Auto Electrician	146
Dress Maker	144
Tailor	141

Zhob

Trade	Demand
Waiter	1,012
Cook	607
Cashier	587
Helper	450
Hairdresser	238
Stitcher	198
Cook	158
Electrician	144
Sales & Marketing	140
Plumber	132
Auto Mechanic	131
Woodwork	121
Pattern Cutting	101
Tailor	92
Mason	83
Computer Operator	80
Automobile Painter	77
Painter	77
Welder	66
Auto Electrician	65

Qilla Abdullah

Trades	Demand
Tailor	1,054
Motorcycle Mechanic	724
Electrician	437
Computer Hardware Tech.	400
Plumber	366

Level of Satisfaction

The employer's response to the level of satisfaction with the skilled workforce trained in formal TVET system is shown in *Figure 4.12*. Over 40 percent of the employers stated that they are satisfied with the training offered by the TVET sector in the province. While 39 percent shown dissatisfaction with the quality of training imparted in TVET institutions. However, 21 percent did not give any response or had no concrete answer to these questions.

Figure 4.12: Level of satisfaction with the workforce trained in formal TVET system
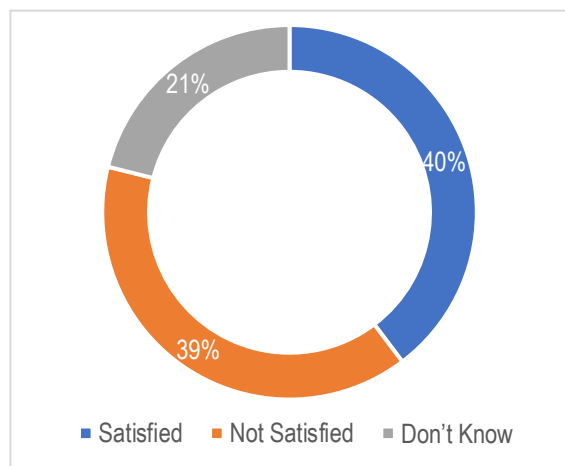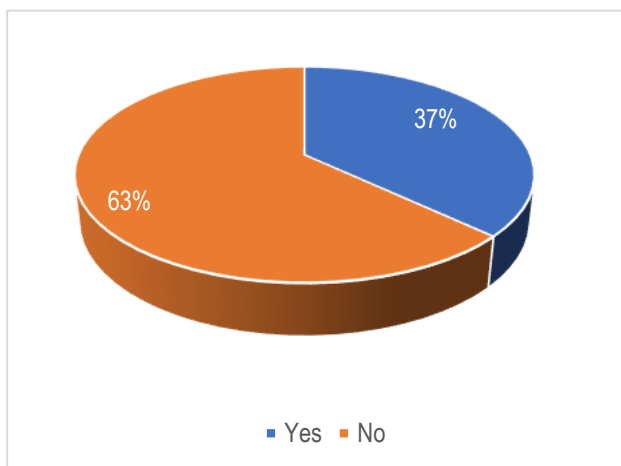
Figure 4.13: Skilled workforce meeting job requirement

21%
40%
39%
■ Satisfied   ■ Not Satisfied   ■ Don't Know

37%
63%
■ Yes   ■ No

The responses of the employers on the relevance of the workforce trained in formal TVET sector is displayed in Figure 4.13. Over 63 percent of the employers stated that the workforce trained in the formal TVET sector does not meet their requirement and they must train them further before deploying them on the job. Only 37 percent employers answered that the workforce trained in formal TVET system meets their requirement.

Recommendations

1. TVET sector in Baluchistan is required to review and re-align the TVET strategies and plans according to the requirements of the provincial labour market which is dynamic and everchanging. This can be the most suitable policy option to enhance the employability rate of the certified trainees in response to the rising unemployment. Therefore, emphasis should be given to demand-driven courses as identified by the employers.

2. Demand for some trades such as machine operator, packaging machine operator, helper, cutting operator, foreman and lab technician was reported in multiple industries. Skills required for these trades varies in each industry which impedes the development of standardized courses. Therefore, it is recommended that such training programs should be offered through apprenticeship or cooperative training mechanism.

3. Recognition of Prior Learning (RPL) should be upscaled in the province to increase the share of the formal TVET system.

4. Results of the study revealed that employers were not satisfied with the workforce trained in formal TVET institutions that raises serious concerns over the quality of training being offered. Therefore, TVET authorities in Baluchistan are required to introduce a quality assurance system and ensure strict compliance at the level of TVET institutes. In this regard, it would be most appropriate to accelerate the accreditation drive in the province so that the quality of training and assessment could be improved.

5. Over 63 percent of employers reported that the training programs offered in the TVET institutes do not meet their requirement, hence, raised serious concerns in terms of currency and relevance of skills sets with the job requirements. Therefore, a comprehensive exercise must be initiated to map the existing training courses with the demand of the provincial job market and only demand-driven courses should be offered to ensure maximum employability of the certified trainees.

6. Career counselling and job placement services need to be operationalized through the deployment of dedicated staff and close liaison with industry must be established.

7. Integration of management information systems of Baluchistan TEVTA and Trade Testing Board (TTB) should be done on priority basis to get accurate data on the workforce trained.

8. Future demand for female skilled workforce is insignificant, which is only 5 percent, as compared with the male gender. It is therefore proposed that the young woman should be properly oriented with the employment opportunities in sectors like IT, crafts, food production, readymade garments and fashion industries etc. To enhance the outreach, the provincial government should introduce a dedicated web portal for women that may provide career guidance, business training/mentoring and other supporting information which may help them to initiate their own business.

9. Business start-up training should be made compulsory for all short and long duration courses. Also, business incubation centres should be established in collaboration with the Small and Medium Enterprises Development Authority (SMEDA) to facilitate trainees in self-employment.

Islamabad

Characteristics of Existing Workforce

Gender participation in Islamabad's job market is male-dominated, as shown in Figure 5.1, which is highly disproportionate. Analysis of the respondent's data reveals that the contribution of formal TVET sector in the employed workforce in Islamabad is only 4 percent as compared to 66 percent from the informal sector and 26 percent from work-based learning pathway, as shown in *Figure 5.2*. This low percentage of formally trained workforce in the labour market is indicative of the insufficient training facilities in Islamabad. On the other hand, the high share of the workforce trained in informal and non-formal pathways is an opportunity for the TVET sector to testify their knowledge and skills under the internationally accepted system of Recognition of Prior Learning (RPL). Furthermore, the Government of Pakistan has introduced the apprenticeship act in 2017 (Apprenticeship Act, 2017) to regulate and facilitate work-based and on-the-job-training in federally administered area. With the enactment of revised apprenticeship law, it is expected that skilled workforce supply can be increased substantially.

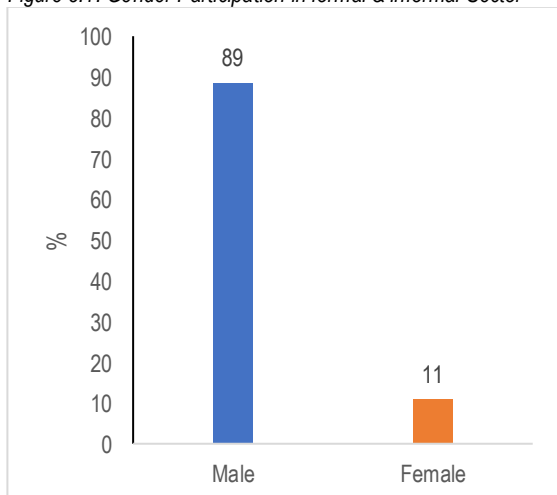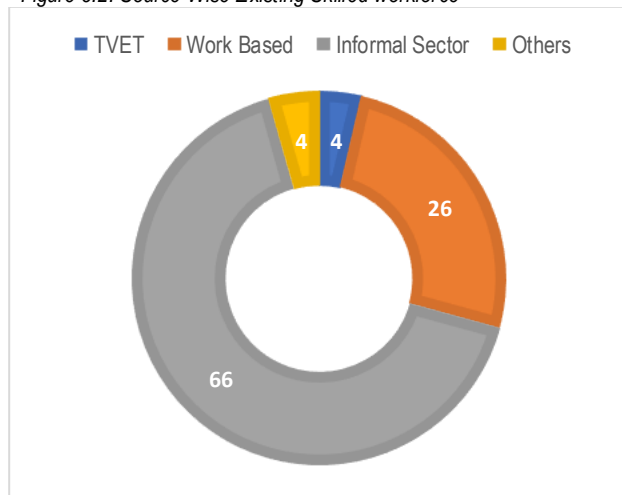*Figure 5.1: Gender Participation in formal & informal Sector*

Figure 5.2: Source Wise Existing Skilled workforce

Job Vacancies Available in Labour Market

Currently, available job vacancies have been depicted in *Table 5.1* which also indicates the existing demand for skilled workforce in the job market. Floor miller operator has been discovered as the leading trade with 1,702 employment opportunities which relates to flour mills industry. Presently, there is no formal pathway available for this trade and mostly the demand of flour mill operator is met through on-the-job training, which is wholly managed by employers. The second trade where most of the vacancies are available is the hair expert followed by beautician, sales & marketing and telecom technician with 667, 621, 551 and 506 vacancies, respectively.

Table 4.1 Job vacancies available in Islamabad

Trade	Vacancies
Flour Mill Operator	1702
Hair Expert	667
Beautician	621
Sales & Marketing	551
Telecom Technician	506
Nurse	483
Skin Therapist	368
Medical Technician	345
Electrician	253
Ward Boy	253
Security Guard	230
Operation Technician	184
Tour Guide	161
HVAC	115
Packaging	115

Skilled Workforce Shortages

Highest skilled workforce shortage was reported in the services sector with a share of 70 percent while the share of the manufacturing sector was 30 percent, as shown in *Figure 5.3*. Less shortage in the manufacturing sector also indicates the fewer number of enterprises in Islamabad.

Figure 5.3: Sector-wise workforce shortages

30%

70%

■ Manufacturing ■ Services
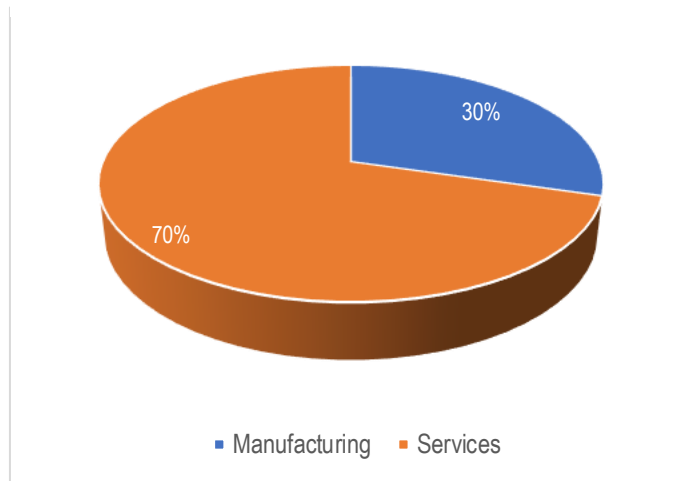
Future Skilled Workforce Demand

One important area of the survey was to collect information about the future skilled workforce demand from the employers, probably for the period of next one year, in case they intend to expand their businesses or planning to enhance their capacity. The analysis of the responses showed that approximately 35,099 skilled workers would be required in various industrial sectors. Further details about industries and occupations are provided in the succeeding paragraphs of this report.

Gender-wise Workforce Demand

The gender-wise demand for the future skilled workforce requirement is shown in *Figure 5.4*. The male gender dominates the future skilled workforce demand with 76 percent share in total demand of Islamabad district. The female skilled workforce demand is 24 percent of the total future demand which is comparatively better than Punjab and Baluchistan.

24%

76%

■ Male ■ Female
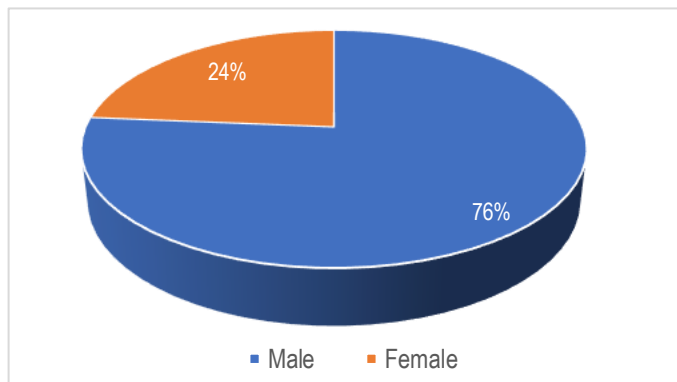
Sector-wise Demand for Skilled Workforce

Figure 5.5 illustrates the workforce demand in economic sectors. The services sector dominates the future demand with 71 percent of share in total future demand of Islamabad. Whereas, the share of the manufacturing sector in future skilled workforce demand is 29 percent. Less share of the manufacturing sector in comparison with the services sectors can be attributed to the economic profile of Islamabad district which lacks major manufacturing industries as we have in Karachi, Faisalabad, Lahore and Sialkot.
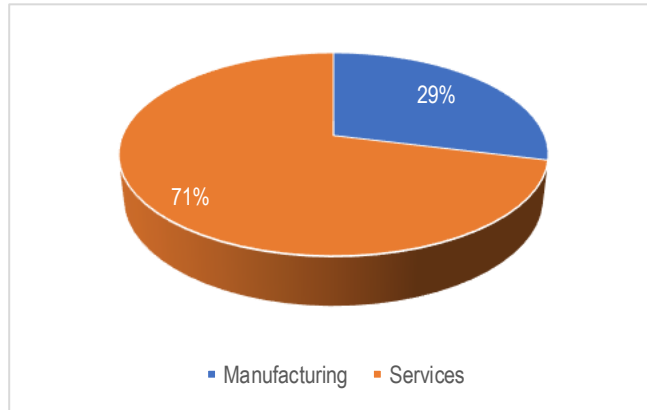
Projection of Workforce Demand in the Manufacturing Sector

The skilled workforce requirements in each sub-sector under the manufacturing sector is shown in *Figure 5.6*. Marble and construction industries have emerged as the leading sub-sector in Islamabad with a potential of 5,203 vacancies which is followed by the steel industry with 1,748 employment opportunities.
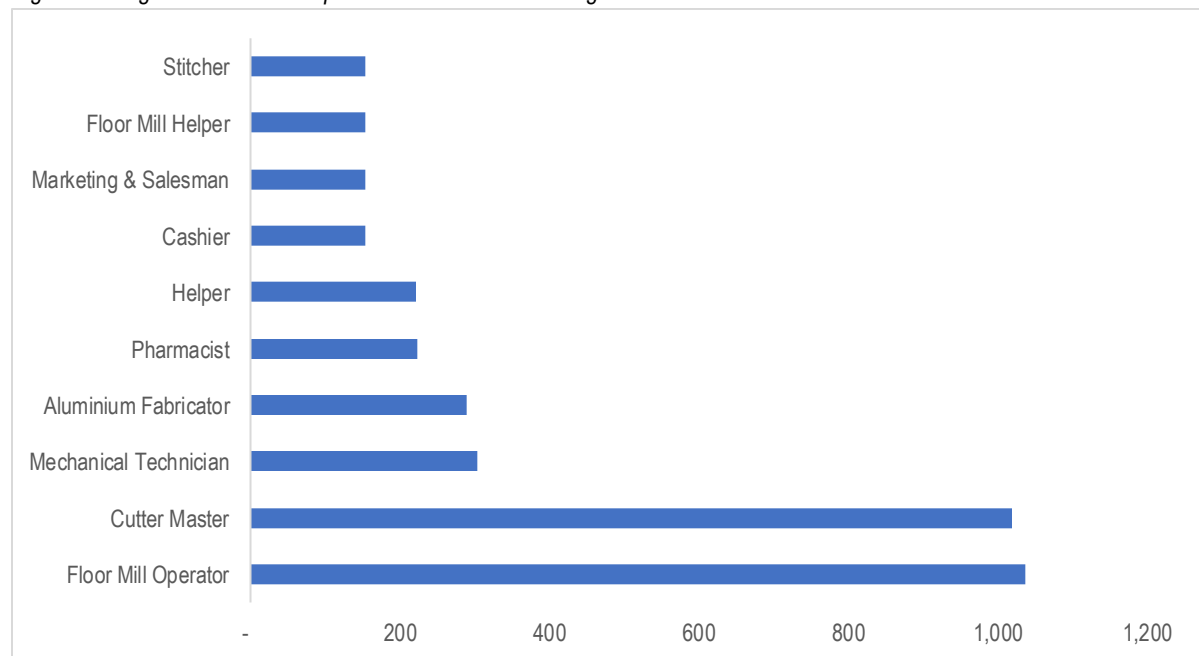
Figure 5.6: Projection of future workforce demand in the manufacturing sector
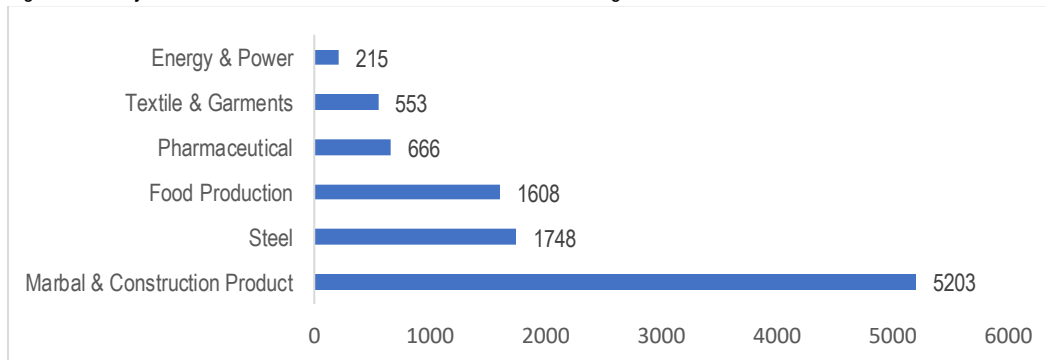
High Demanded Occupations in the Manufacturing Sector

Top demanded occupations in the manufacturing sector for Islamabad are shown in *Figure 5.7*. Highest demand has been anticipated for Miller Operator (1,037) and Cutter Master (1,020). Most of the highly demanded trades are not being offered in training institutes, therefore, it is suggested that trainings for these trades should be imparted in industry enterprises under the Apprenticeship Act, 2017.
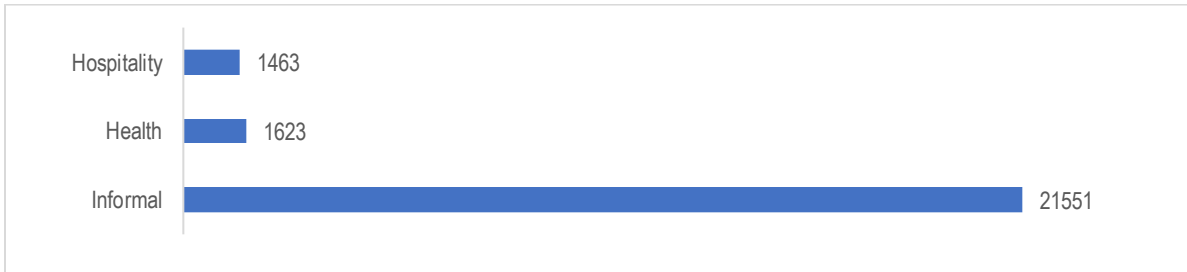
Figure 5.7 High demanded occupations in the manufacturing sector

Projection of Workforce Demand in Services Sector

The projected demand for skilled workforce in services sectors for Islamabad is provided in *Figure 5.8* which presents the informal sector as the top-most category of labour market which has the potential to employ 21,551 skilled workers. This informal sector includes business activities in automobile servicing, retail shops, restaurants and other similar forms of micro-enterprises. Employers in health and hospitality sectors also reported future skilled workforce demand of 1,623 and 1,463 vacancies, respectively.

Figure 5.8: Projection of future workforce demand in the services sector

High Demanded Occupations in Services Sector

The workforce demand in the services sector is dominated by automobile services, electrical servicing, personal care and retail industries which operate in the informal sector. The top demanded trades in the services sector for Islamabad are automobile mechanics (2,775), automobile electricians (2,176), beauticians (1,820) and AC technicians (1,751). Other leading trades for Islamabad have been listed in Figure 5.9.

Figure 5.9: High demanded occupations in the services sector
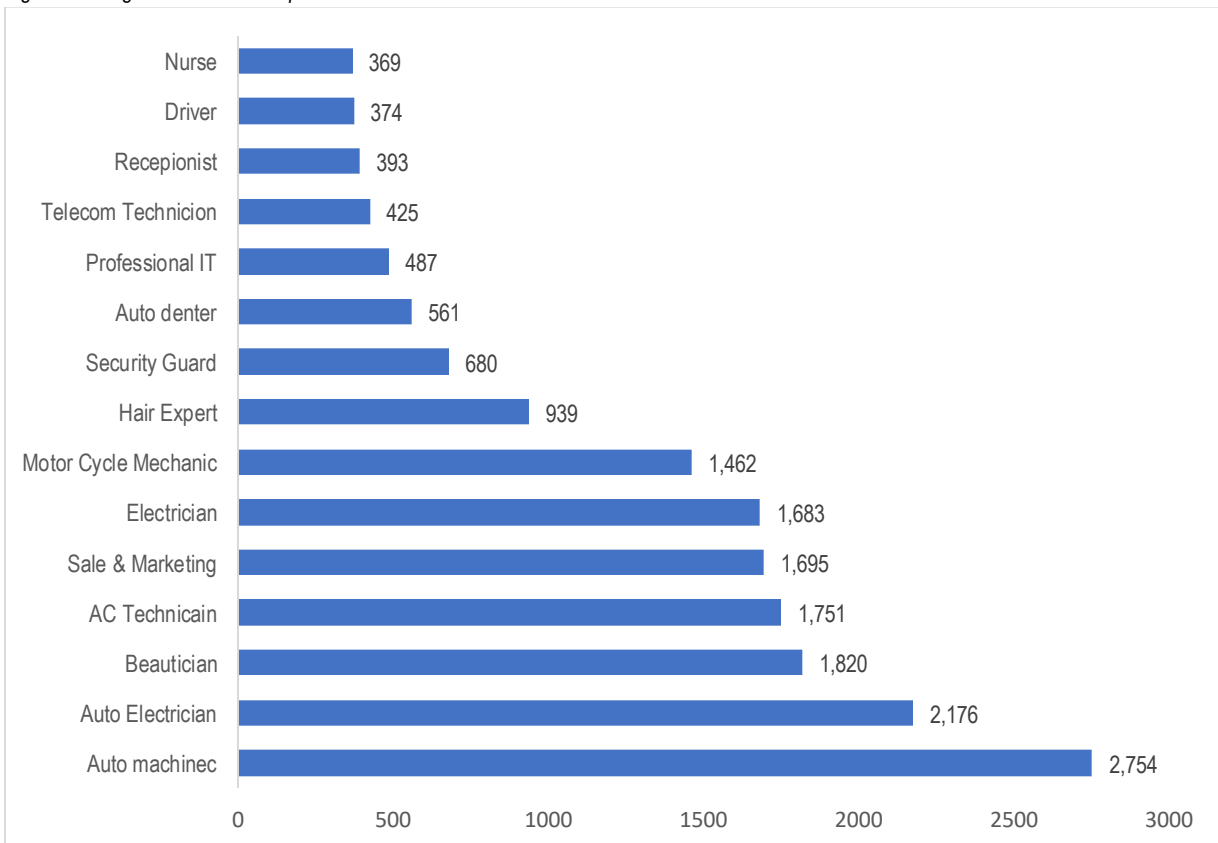
Level of Satisfaction

The employer's response to the level of satisfaction with the skilled workforce trained in formal TVET system is provided in *Figure 5.10*. Over 47 percent of the employers stated that they are satisfied with the training offered by the TVET institutes in Islamabad. While 32 percent shown dissatisfaction with the quality of training imparted in TVET institutions. Whereas, 21 percent did not give any response or had no concrete answer to these questions.

Figure 5.10: Level of satisfaction with the workforce trained in formal TVET system
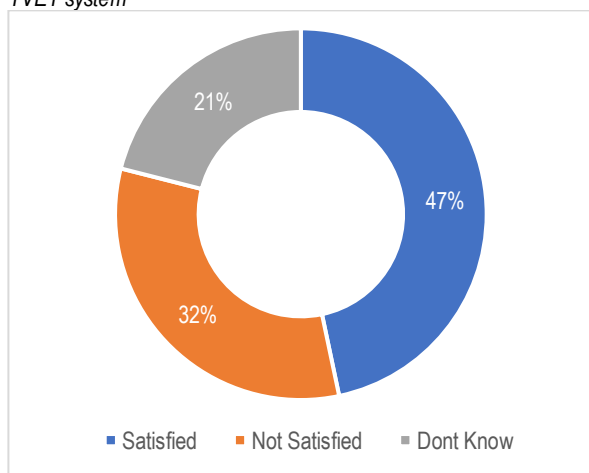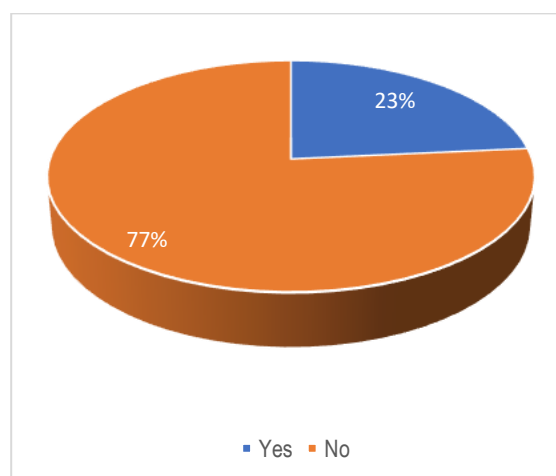

■ Satisfied ■ Not Satisfied ■ Dont Know

Figure 5.11: Skilled workforce meeting job requirement

■ Yes ■ No

The responses of the employers on the relevance of the workforce trained in formal TVET sector is displayed in Figure 5.11. Around 77 percent of the employers stated that the workforce trained in the formal TVET sector does not meet their requirement and they must train them further before deploying them on the job. Only 23 percent employers reported that the workforce trained in formal TVET system meets their requirement.

Recommendations

1. There are 105 TVET institutes in the public and private sector that are registered with various registering organizations or qualification awarding bodies. To enhance the quality of training and assessment, one registering body or board should be established in Islamabad and all the TVET institutes must be registered with it.

2. In some of the trades, no formal pathway for training presently exists e.g. flour mill operator and floor-ceiling expert etcetera. In such cases, training can be offered through non-formal means which can be facilitated through the Apprenticeship Act, 2017.

3. Analysis of the responses provided by the employers showed that there is a high demand for certificate, diploma and DAE level training programmes. Also, over-supply and least preference was reported for short courses. Therefore, it is suggested that such courses should be abandoned and only NAVTTC approved qualifications and training packages should be offered to learners.

4. The capacity of TVET system needs to be enhanced for which multiple approaches can be adopted e.g. establishment of new TVET institutions, implementation of the apprenticeship system and offering the formal recognition system for skills attestation such as Recognition of Prior Learning (RPL).

5. Career counselling services need to be strengthened and its scope should be enhanced so that potential trainees can also be attracted from other streams of education e.g. secondary schools, maddaris, and tertiary education colleges etc.