

## AN INVESTIGATION OF TECHNICAL & VOCATIONAL EDUCATION TRAINING (TVET) AND THEIR LINKAGE WITH LOCAL INDUSTRIES IN DISTRICT SHAHEED BENAZIRABAD

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### Abstract

Technical & Vocational education training (TVET) is identified as a master plan to enhance the economic growth of both developed & developing nations and improve the well-being of life, but in today's time, the technical education of Pakistan is facing different issues like diploma holders and graduate students of TVET institutes facing the problem of unemployment, and they are lacking behind to meet the requirement of industries. The present research used a quantitative methodology, and survey questionnaire for data collection, all the survey responses were entered in SPSS for data analysis. Applied Cronbach's alpha test to check the reliability of the Questionnaire. For better understanding, the results of this research are shown in Pie, Bar, and column charts. This study examined the Current status of TVET institutes, and the linkage between TVET institutes and local Industries, for that purpose conducted skills need assessment from industries, findings of the study that there is a mismatch between Industries and Technical institutes, and there is no significant relationship between local industries and TVET Institutes in District Shaheed Benazirabad. Finally, the research has proposed a Model for effective utilization of TVET for industrial growth in Shaheed Benazirabad, the recommendations and conclusions were provided at the end for better development and linkage between TVET institutes and Local industries.

**Keywords:** Technical and vocational education training TVET, Linkage, Local Industries, Shaheed Benazirabad

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### 1. INTRODUCTION

Education is not only playing a vital role in the development of every individual but it also playing a very important role in the growth of a country. The development of a country or nation depends on its developed human resources. Education prepares individuals as responsible people to their societies and also for the development of a nation because education develops the minds of individuals into soft and intellectual skills after that they realize their responsibilities in fulfilling their career goals and objectives. In Pakistan, two main streams are running in the education system i.e. formal and non-formal education systems. Technical and vocational education (TVE) is

counted as the major branch of the professional education system. General education is identified as a key of any development strategy, but Technical & Vocational education is identified as a master plan to enhance the economic growth of all the developed & developing nations and it also improves the well-being of life.

Technical education is linked with vocational training so the term is used as technical and vocational education and training (TVET). Mostly the technical education is offered after the matric level of education, these programs are based on practical hands-on training and theoretical. The main purpose of these training and programs is to prepare an individual as a technician who can fill the gap between unskilled labor to top management and engineers through performing their duties. The most major program of technical colleges and polytechnic institutes offered a three-year diploma in associate engineer (DAE) (Raza, 2014)

Due to rapid changes in technology global market trends are changing, such as Education, business, Economic, health, and social life. In the Asian region the technology increasing day by day. The global market shift to artificial intelligence, not only the manufacturing industry but service industries also shifted themselves to artificial intelligence (Perc et al., 2019) after the adoption of artificial intelligence the labor markets and industries changes their demand of skills and devaluating some skills after adopting new skills (Ozer & Perc, 2020). The Causes of skills shortage in the labor markets are a mismatch of skills such as one sector is facing a shortage of skills and another is oversupplying. The skill mismatch means the quality of manpower and the need of labor markets are different (Johansen & Gatelli, 2012).

According to the Asian development bank report of 2015, "The Asian countries are still unaware of the future impact of technology it will be a future challenge for the Asian economy. The fourth industrial revolution driving by all the new technologies such as robotics and artificial intelligence it will be both opportunities and challenges for Asian countries. Exactly in the future, it will change the nature of work also changes the demand for skills in the labor market. After this report, the question arises that "how TVET institutes of developing countries will meet the requirement of the global market and how do they get advantages of the different opportunities? So it's very necessary to prepare individuals according to changes in labor demands and prepare different industrial national policies and make a framework for the development of the economy (Islam, (2018).

### **The industrial sector of Pakistan**

The industrial sector of Pakistan is divided into two markets as Manufacturing industries and Consumer Markets. The industrial sector of Pakistan is the second-largest GDP contributor of the country. The industrial growth of Pakistan going slow day by day at the time of 2000 the growth rate is 25% and in the year 2016 the growth rate is 20% its very necessary to the development of industry because it takes a major role in the economy development of a country. From 2006 to 2011, 1579 industries were shut down because of the lack of physical and human capital, poor quality of learning education, and the poor development of human resources impacted the industrial sector.

Due to the lack of technical knowledge, industries, and technical institutes, are facing a shortage of technical workforce in the industrial sector of the country. Recent studies stated that due to intention on research and devolvement in technology improve the quantity and quality. Continues improvement and replacement of technology are the requirements of industrial development. Pakistan is a developing country also suffering in the field of the industrial sector because of the lack of technical education, it's not at the base of research and development and there is no collaboration and linkage between the educational institutes and the industrial sector.

Recently in Pakistan, many issues have been notified about the quality of the Technical education system and their linkage with local industries. Every year TVET institutes produce many good numbers of B-tech holders and associate engineers in the various fields also offered different types

of short courses and training for better employment, but due to the lack of collaboration and linkages between TVET and Local industries there are a lot of graduate students of TVET institutes are unable to perform well. They face many difficulties to find a particular job related to their degrees and diplomas because of mismatch and unrelated curriculum between TVET and industries (Ali et al., 2017)

## **2. Literature Review**

Education is playing a significant role in the development of socio-economic, education is a door for socio-economic development of any country. The World Bank (2011) defined education as a powerful tool for the growth of societies and human resources it improves Health care, Gender equality, etc that is why education takes a vital role in alleviating poverty in the country.

The current education system of Pakistan is based on three levels Elementary School system, Secondary and higher education system. 1<sup>st</sup> to 5<sup>th</sup> class is a primary base education, and six to eight classes are considered as middle schooling. Both primary and middle schooling counted as elementary education, and 9<sup>th</sup> to 10<sup>th</sup> included in the Secondary stage of education. Higher secondary education is started after high school; it consisted of the 11<sup>th</sup> to 12<sup>th</sup> level. The final stage of education is higher Education which started after higher secondary school, its start from the bachelor's to Ph.D. level. According to 90s policy, a bachelor's degree consisted of 2 years but recently higher education commission converted a 2-year degree into a 4-year program for bachelors, and the professional degrees of medical and engineering take five years duration to completion.

The second stream of education of Pakistan is technical and vocational education (TVE). The aim of this type of education is to producing labor and technicians in various fields and develops the human resource of the country. The technical education offered three years of a diploma of an associate engineer (DAE) and after the matriculation, they offer different short courses almost in all fields of technologies, for both male and female, for all the provinces of Pakistan.

**The different stream of Pakistan education streams and their levels of education listed below in table no.1**

Level of Education	Class/Grade	Pre-requisite	Duration of Education	Qualification/Degree
Primary	1 <sup>st</sup> to 5 <sup>th</sup>	--	5 years	Primary Pass
Elementary	6 <sup>th</sup> to 8 <sup>th</sup>	Primary	3 years	Middle Pass
Secondary	9 <sup>th</sup> & 10 <sup>th</sup>	Middle	2 years	Secondary School Certificate (SSC)/ Matriculation/ Matric Tech (Subjects: Science/ Humanities/ Commerce/Technical)
Higher Secondary	11 <sup>th</sup> & 12 <sup>th</sup>	Matric/ Matric Tech.	2 years	Higher Secondary School Certificate / Intermediate (Subjects: Science/Arts/ Commerce(FA,F.Sc,I.Com)
Bachelor Degree	13 <sup>th</sup> & 14 <sup>th</sup>	Higher Secondary	2 years	- Bachelor of Arts / commerce(BA/B.Com) -Bachelor of Science (B.Sc.)
	13 <sup>th</sup> to 16 <sup>th</sup> (New scheme)	Higher Secondary	4 years	-BS (Science/Arts)
Master Degree	15 <sup>th</sup> & 16 <sup>th</sup>	Bachelor Degree	2 years	- Master of Science/ -Arts/Commerce M.Sc./ MA/M.Com/MBA etc
Engineering Degree	13 <sup>th</sup> to 16 <sup>th</sup>	Fsc(pr-Engg)/DAE (limited seats)	4 years	-Bachelor of Engg. (BE/BSc. Engg.)
Medical	13 <sup>th</sup> to 17 <sup>th</sup>	Fsc(pr-medical)	5 years	MBBS
Vocational	8 <sup>th</sup> to onwards	Middle/ Matric	6 month to 2 years	Trade/Vocational Certificate(G-II & G III
Technical	11 <sup>th</sup> to 13 <sup>th</sup>	Matric/ Matric Tech.	3 years	Diploma of Associate Engineers (DAE)
Technology	14 <sup>th</sup> to 17 <sup>th</sup>	(DAE)	4 years	B-Tech. (Honours)

Table 1 Streams of Pakistan Education

### Technical Education of Pakistan

Technology is very commonly used everywhere in the world, Pakistan is also counted in those countries that used technology in their daily life's because the technology makes life easier and smooth, through the effective technical education prepared technicians which will use as an input in the success of the country, the technology is not difficult to adopt in our life's but it's not more easier to adopt, definitely it takes some efforts. It's very famous that Pakistan is a very active follower, Pakistan always follows the technologies of other countries, but, indeed, Pakistan is still failing to create technologies in different fields, there are some reasons behind the lack of development in technology i.e. Need a highly skilled team, higher capital, Human resource, level of technical knowledge are required to develop a successful technology. For this kind of purpose need effective technical institutes and colleges

to enhance the skills of the youth of Pakistan then use their inputs to the technological development of the country.

After the independence of Pakistan, In June 1948 the government of Pakistan made a Technical education council, the major aim of the council is to provide a different level of technical education and develop manpower of the country. After independence, Pakistan faces many challenges in the development of the technical education system because it's different from general education so the council of technical education overcomes the different challenges of technical education. Through the development of effective Education policies, the quality of education and literacy rate enhanced in the country, the major aims of these educational education policies to increase the rate of literacy and promote the educational institutes because it is very necessary today to provide effective technical education to individuals and enhance their skills in various technical and vocational skills, therefore the

youth of Pakistan participating in the economic development. The national authority of vocational and technical training commission (NAVTTTC), Islamabad, is the top body it establishes and Manipulates policies and gives direction, supports, and facilitates to all the TVET institutes of the country, The NAVTTTC also supportive institutes in the different challenges. The NAVTTTC making all type of efforts to improve the quality of the TVET sector of the country, according to the 2025-vision of Pakistan to achieve the social-economic development of youth by the training of Technical and vocational education. Through the different facilities they develop the skills of youth in the local and international labor market and also positively engage them in the right direction. The TVET institution details are given below in table 2.

Province/Region	Technical	Vocational
Punjab		
Sindh		
Balochistan		
North West Frontier Province		
Islamabad Capital Territory		
Hyderabad		
Rawalpindi		

Table 2 (Sources: Table 2 NAVTTTC NSIS statistical overview)

Workplace skills acquisition is very necessary today it's seen as a key driver of the technological and economic development of the country. The TVET education prepares human resources in different skills and provides knowledge and effective management skills to manage their occupation. The TVET is a study about the various technologies and related scientific studies, attainment of practical skills, knowledge, attitude, etc. these all activities

performing TVET institute related to their occupations, workplace responsibilities, and also to the development of economic and social life (UNESCO, 2001).

TVET graduate students do not acquire important skills, training, knowledge, and abilities when they starting their career in industries, due to the lack of these skills and abilities can limit the productivity of individuals of newly hired recent graduates of TVET sectors. TVET graduates have not only limited practical and technical skills also less familiar with tools and a basic understanding of technical concepts. In most cases there is a large skills gap between TVET students and the expectations of the industry so because of this issue hiring managers and other executives avoid hiring TVET graduate student (McGill, 2009)

The workplace of the 21st century is unique and only those people are served who have adequate skills. The 21st century four unique characteristics are (i) Scientific and computer world (ii) technological and scientific skills required for children (iii) the world of work mostly depends on the efficiency, effectiveness and Accuracy, capabilities which come from Educational sectors and (iv) is that today is the era of highly trained experts. Iroritayer Adjekpovu (2013) in the world of work the employers of different organizations face many difficulties to find out these unique characteristics in the labor and recently graduate students.

The (S.jayaram and Engmann and S. Jayaram et al. 2017) the current skills Gap in the south and South-east Asia. Two comprehensive areas of skills were identified in these three Asian countries (Bangladesh, India, and Pakistan) the first is about the non-cognitive skills: (leadership, Effective Communication, teamwork, flexibility, Ethics, and honesty and the 2nd skills were identified about the linking skills which learn through the ability. The academic and technical institutions offering education, training, and business environment in various disciplines but which does not apply longer in the labor market and industries. In the current situation industries are not re-train the



graduates of TVET institutes, they bring technical skills to doing the same job (ADB, 2015) the recent study of S.Jayaram & Engman (2015) argued that there is in whole South Asian region have large skills gap existing among the TVET institutes and Industries. After the discussed above statements the purpose of this present research study was an investigation of TEVT institutes and their linkage between local industries in District Shaheed Benazirabad, Sindh, Pakistan. It assumes that the valuable information will be provided by this research study about the current status of TVET institutes and the skills gap between TVET institutes-local industries of Shaheed Benazirabad and will provide necessary improvement and suggestions to the institutions

**2.2 Problem Statement**

The technical education of Pakistan facing different issues, such as diploma holders and graduate students of TVET institutes facing the problem of unemployment and they are not trained enough to meet the required skills of industries,. The purpose of this study is that there is a need to see the role of technical and vocational education Training (TVET) in fulfilling the need of the industrial sector of District Shaheed Benazirabad.

**2.3 Research Question**

How technical and Vocational Education training fulfilling the need of the local industrial sector of Shaheed Benazirabad?

**2.4 Objectives of the research**

1. To identify the current status (Programs and training offered, Location, etc.) of technical and Vocational education training (TVET) of District Shaheed Benazirabad, Sindh.
2. To Align TVET activities with respect to local Industries.
3. To identify the linkage between TVET institutes and Local industries of District Shaheed Benazirabad.
4. To purpose a Model for effective utilization of TVET for industrial growth in District Shaheed Benazirabad.

**2.5 Hypotheses**

1. **H<sub>1</sub>**. There is a significant relationship between local industries and TVET Institutes
- H<sub>0</sub>**. There is no significant relationship between local industries and TVET Institutes

**Methodology of research**

The methodology of the study adopted a purely quantitative approach for the answer the research question and achieves all the objectives to identify the relationships, and Effectiveness of variables. The sample random size of the study is 220, the questionnaire was based on three sections the first section were based on demographics (Age, Gender, and Employment status), and in the 2nd section of the questionnaire for TVET institutes the data collected the current status of TVET institute (Programs, Training Offered) and for local industries the conduct a need assessment that what type of skills required in the industry and last section of the questionnaire is about the linkages between local Industries-TVET institutes. The questionnaire is divided into two selected talukas of District Shaheed Benazirabad (Sakrand, Nawabshah city) the data is collected through a survey questionnaire, 110 responses collected from four TVET institutions, and 60 responses are collected from six local industries (Table.2). All the data were analyzed through the SPSS, Mean, and Correlations to collect the best results

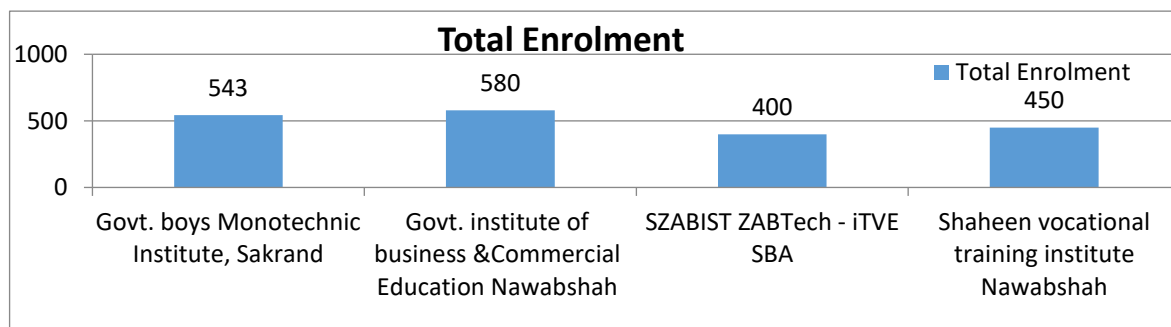
**3.2 Distribution of questionnaire**

Institute Name	Distributed Questionnaire	Response Received
Govt. boys Monotechnic Institute, Sakrand		
Green vocational training Institute Nawabshah		
Govt. institute of business Commercial Education Nawabshah		
Govt. Dist-zabtech Institute Nawabshah		
Govt. Flour Mills Sakrand		
Govt. and Roller Flour Mill		

er Mill Sakrand LTD		
b Sugar Mill abshah		
aeed flour Mills abshah		

**4.1 OBJECTIVE-01. To identify the current status (Programs and trainings, Location etc.) of technical and Vocational education training (TVET) of District Shaheed Benazirabad, Sindh**

The first objective was achieved with the help of a questionnaire which is collected from the



s Flour Mills abshah		
1 Response Ratio: 2		

principal and linkage officer of TVET institutes, in which ask a question to the respondents about the current courses and training offered by the institute. The data collected from four TVET institutes, three are selected from city Nawabshah and one is selected from Taluka Sakrand.

Table 3 Distribution of questionnaire

**3.3 Demographics**

**1. Total Enrolment of students in TVET Institutes**

Figure 02 Total Enrolments of Students

Results took from survey which is seen in graph the total enrolment of all the selected TVET Gender institutes. The total enrolment of Govt. MALE=79, onotechnic Institute Sakrand is 543 and the FEMALE=2 total enrolment of students of Govt. institute of isinness & commercial education Nawabshah is 580, SZABIST ZABTech – iTVE SBA total enrolment of students is 400, in last the 450 enrolment of students in Shaheen vocational training institute Nawabshah

**2. Number of Passing out students each year**

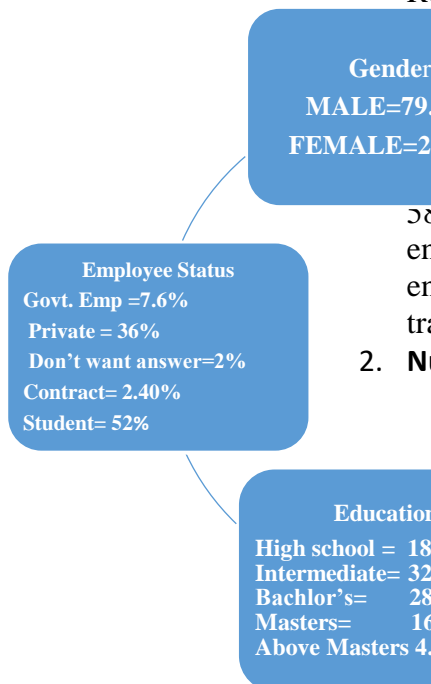
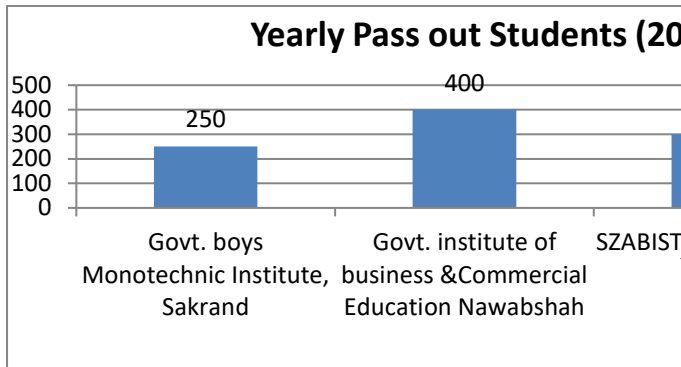


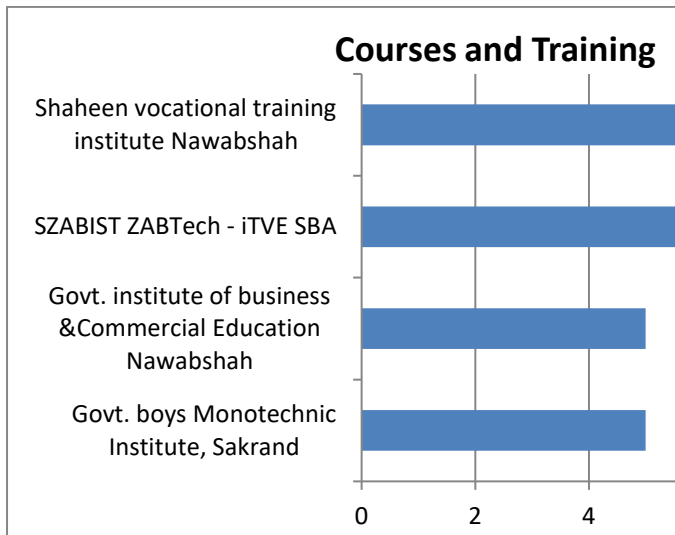
Figure 1 demographics

**4. Data Analysis**



**Figure 3; Passing out students each year**  
According to the responses of TVET institutes the survey results detected that in Govt. boys Monotechnic Institute, Sakrand 250 students pass out in this year and 400 students pass out from the Govt. institute of business & Commercial Education Nawabshah, furthermore in SZABIST ZABTech - iTVE SBA 300 students were pass out their courses in last 250 students getting their certificates and degrees from Shaheen vocational training institute Nawabshah

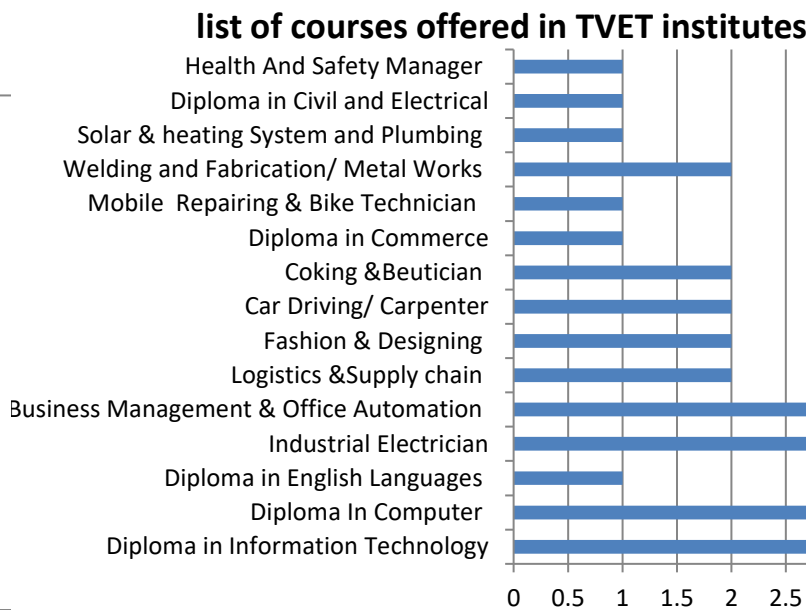
**3. TVET Institutes and Trainings offered.**



**Figure 04: Number of courses & Training**  
The above graph showing the overall number of courses offered by the TVET institute of Shaheed Benzirabad. The Questions asked to the heads of TVET institutes and these responses were received. The Shaheen vocational training institute Nawabshah offered 11 different courses, and SZABIST ZABTech – iTVE SBA offered 10 technical and vocational courses, the third institute Govt. institute of business &

Commercial education Nawabshah offered 5 various types of technical courses and 5 courses offered by Govt. Monotechnic Institute, Sakrand.

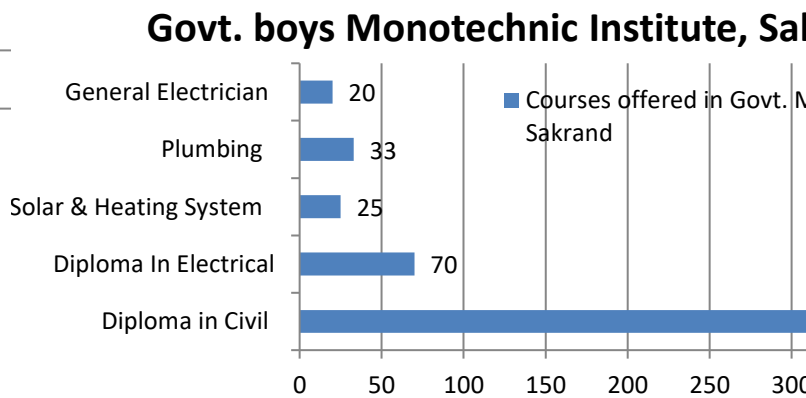
**list of courses offered in TVET institutes of SBA**



**Figure 5 : list of courses offered in TVET institutes of SBA**

The above graph showing the result of the list of courses offered in TVET institutes. Total 22 courses were offered which were classified into 5 courses because of the similarity in courses. The courses of each institute are discussed below in the graph.

**1.2. Courses offered in Govt. Monotechnic institute Sakrand**



**Figure 6: Courses offered in Govt. boys**



*Monotechnic Institute, Sakrand*

The above graph showing the result of overall courses offered in Govt. boys Monotechnic Institute, Sakrand, the responses were that in Diploma in Civil there is 395 students were enrolled and 70 students in Diploma in electrical, 25 students in Solar & Heating system furthermore 33 students were enrolled in plumbing and last 20 students in General electrician.

**4.1.3 Courses offered in the institute of business & Commercial Education Nawabshah**

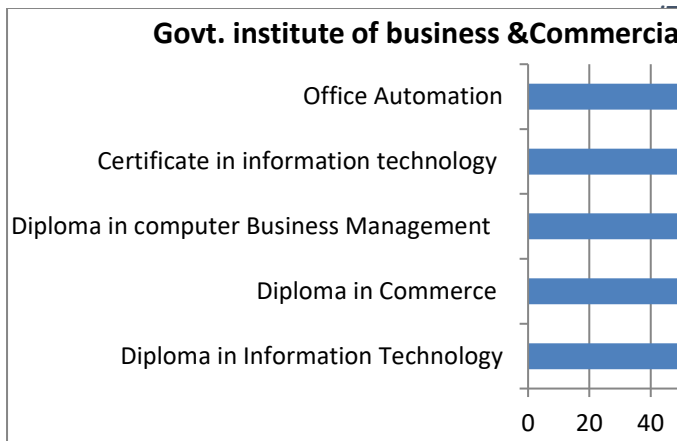


Figure 07: Courses offered in the institute of business & Commercial Education Nawabshah

According to the results taken from a survey the above graph presenting the responses about the courses offered in Govt. institute of business & Commercial Education Nawabshah, the results observed that above-discussed courses are offered in the institute; in diploma in Information technology 170 students were studies and 131 students in Diploma in commerce, in Diploma in computer Business Management 118 students are enrolled, 98 students studies in Certificate of information technology and 63 students in Office Automation.

**4.1.4 Courses offered in SZABIST ZABTech - iTVE SBA**

**Courses offered in SZABIST ZABTech - iTVE SBA**

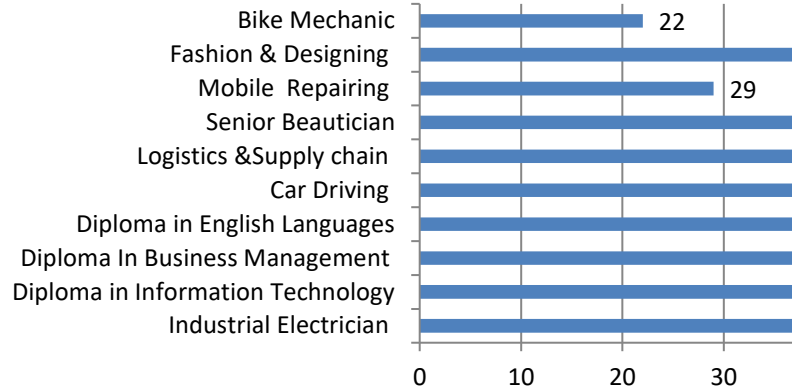


Figure 08: Courses offered in SZABIST ZABTech - iTVE SBA

The above graph showing the obtained result from the survey about the Courses offered in ZABIST ZABTech - iTVE SBA, the responses were that there were 50 students in Industrial electrician, 42 students studies in Diploma in information technology and 44 students in diploma in computer & Business Management, 33 in the car driving, 43 in Logistics & Supply chain Management, in senior beautician 45 students enrolled further more in mobile pairing 29 students, 47 in Fashion & Designing in last 22 students were studies in Bike Mechanic course.

**4.1.5 Courses offered in Shaheen vocational training institute Nawabshah**

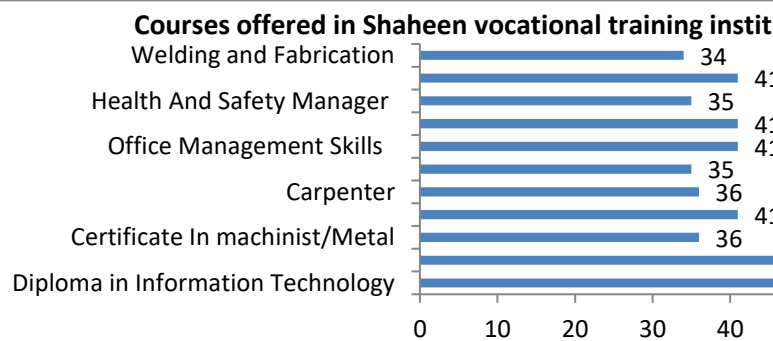


Figure 09: Courses offered in Shaheen vocational training institute Nawabshah

Data obtained from a survey about the current status of TVET institute the question asked about the courses offered in your institute and the results are compiled in the above graph, the

responses are that 11 courses offered in Shaheen vocational training institute Nawabshah. In Diploma in Information Technology, 62 students enrolled in diploma in computer & Business Management 48 students, in Certificate In machinist/Metal work 36 students, 41 students in Industrial Electrician, 36 students in carpenter, 35 in the car driving, 41 students Office Management skills, furthermore 41 students in Logistics /Supply chain, 35 students in health and safety Manager, and 41 students in Fashion And Designing/ cooking and 34 students were enrolled in Shaheen vocational training institute Nawabshah.

**4.2 OBJECTIVE-02: To Align TVET output with needs of local Industries.**

With the help of the survey Questionnaire collected data from TVET institutes of Shaheed Benazirabad about the TVET output and collected data from local industries with the help of need Assessment. The result of TVET output and need assessment of local industries are showed in different graphs which are discussed below.

**4.2.1 TVET Institutes Outputs**

**1. Most jobs oriented course (Yearly)**

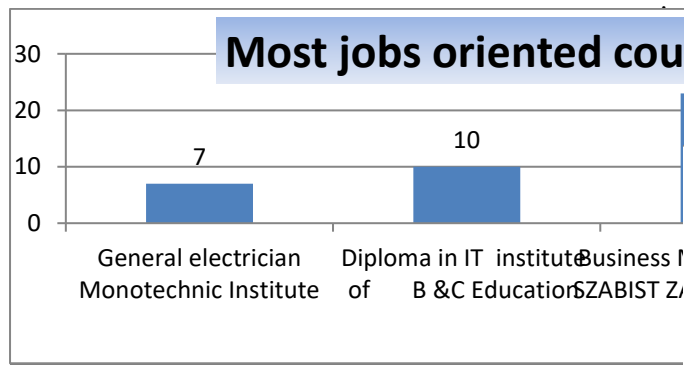


Figure 10: Most Jobs oriented Course

Data obtained from a survey that shown which course in your institute have most jobs in market, the responses are discussed. In Govt. boys Monotechnic Institute, Sakrand most job oriented course is General Electrician which were 7 jobs, and 10 jobs were in diploma of IT therefore the most job oriented course in Govt. institute of business & Commercial Education Nawabshah, the SZABIST ZABTech - iTVE SBA had most job oriented course every year is Business Management course, that were 23 in

different institutes in this year, further more in Shaheen vocational training institute Nawabshah had most jobs oriented course is 19 jobs in computer skills.

**2. Employment Percentage**

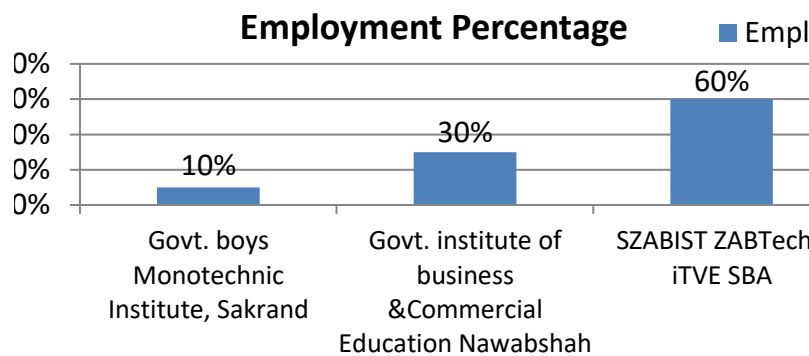


Figure 11 Employment Percentage

The data presented in the above bar chart has shown Employment Percentage of TVET institutes every year, the Govt. boys Monotechnic Institute, Sakrand employment percentage of every year is 10% and 30% of employment in Govt. institute of business & Commercial Education Nawabshah and in the SZABIST ZABTech - iTVE SBA have 60% of percentage in employment, finally 40% of employment in Shaheen vocational training institute Nawabshah

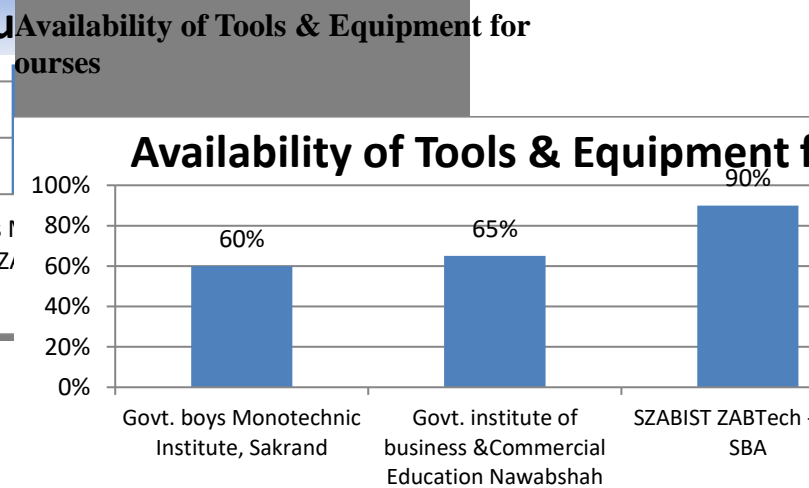


Figure 12: Availability of Tools & Equipment for Courses

Data acquired from the surveys that the percentage about the Availability of resources of courses, the Govt. boys Monotechnic Institute, Sakrand have 60% of availability of resources, and 65% Availability of tools and Equipment in

Govt. institute of business & Commercial Education Nawabshah, furthermore in SZABIST ZABTech - iTVE SBA 90% Availability of resources. In Shaheen vocational training institute, Nawabshah has 85% Availability of tools and Machines for students.

#### **4.2.3 Need Assessment of Local Industries**

With the help of a survey, Questionnaire conducted a need Assessment from local industries of Shaheed Benzirabad the questions

asked to local industries about the needed Technical and vocational training, most needed employees, currently Missing Human Resources, currently how any jobs are available in your industry, all the responses of need Assessment discussed below in Table.

4.3.1 Correlation

Local Industries	Present need of TVET Trainings		Present Number of Jobs Available in local industries	
	Number Of employees	Disciplines	Number of	Jobs in Discipline
Lib Sugar Mill Yabshah		Machine operators and Quality control		Jobs of sugar Machine operators
				Jobs of production workers supervisors
				Jobs of Foremen boiling house
				Jobs of centrifugal mate
Grand Sugar Mill		Computer operator and Machine operator		Jobs of Pattern supervisor
				Jobs of Production Workers
				Jobs of Foremen Boiling house
				Jobs of shift engineer
Wheat flour Mills Yabshah		Food Packaging		Jobs of Packaging Worker
				Jobs of Computer Operator
Wheat Flour Mills Yabshah		Baker & Miller		Jobs of Sales Representative
				Jobs of Miller
Wheat Flour Mill Grand		Process Automation		Jobs of Washing Man
				Jobs of Roll Man
Grand Roller Mill		Sales & Marketing		Jobs of Flour Machine Operator Jobs of Packaging Worker

Figure: 04 Need Assessment of Local industries

Through the help of survey questionnaire achieved third objective about the identify linkages between TVET institute and local industries, this research used Pearson Correlation between TVET institutes and local industries, the results of correlations and descriptive statistics were discussed below in the table.

- 4.2 OBJECTIVE -03 To identify the linkage between TVET institutes and Local Industries
- 4.3 Industries

**Descriptive Statistics**

	n	Deviation
TVET institutes	5	26
Local industries	53	26

Table 05 Descriptive Analysis

**Correlation**

	TVET institutes	Local industries
TVET institutes	1	Pearson Correlation (2-tailed)
Local industries	Pearson Correlation (2-tailed)	1

Table 06 Correlations between TVET institutes and Local Industries

Schober, *et al* (2018) stated that Pearson correlation from ( 0.10–0.39) is weak correlation and from 0.90–1.00 Very strong correlation in this study the Pearson correlation of Local Industries and TVET institutes is (Pearson Correlation) 0.015 it means the correlation is weak, the P-value is 0.909 Sig. (2-tailed) and the Alpha value of this study is 0.05, the table of correlation shows that not statically significant relation. Furthermore, the Alternative hypothesis of this study is rejected (**H1** There is a significant relationship between local industries and TVET Institute in District Shaheed Benazirabad) and the null hypothesis of this study **H0**. There is no significant relationship between local industries and TVET Institutes in District Shaheed Benazirabad is strong and acceptable.

**4.4 OBJECTIVE-04 To purpose a Model for effective utilization of TVET for industrial growth in District Shaheed Benazirabad, Sindh**

The fourth objective was achieved based on the above analysis and findings of three objectives, the linkage and collaboration are very important they need to be improved continually for the better growth of TVET institutes and local industries. TVET institutes and local industries must have deep relations for effectively preparing graduates; for this reason, there is a need for an effective model for the future labor needs which can be used at the right time to produce effective employees on the demand of the labor market. The Model for effective utilization of TVET for industrial growth was developed and adopted (Ali, M *et al.*, 2020) which are discussed below.

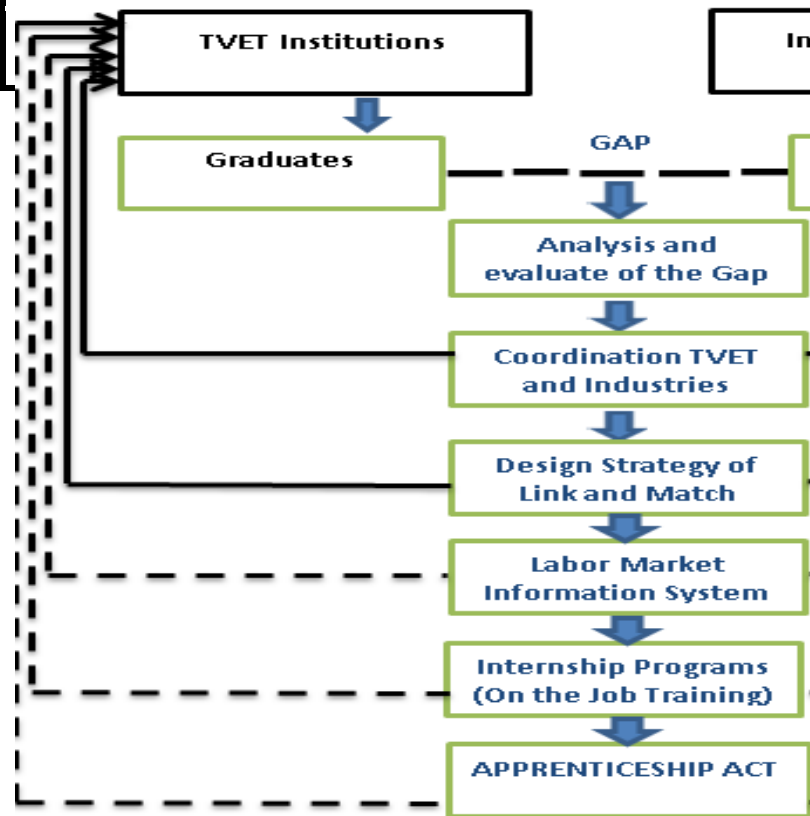


Figure 16 Model for Effective utilization for TVET-industries

For the improvement of TVET institutes, it's very important to identify some key factors for the Linkage and collaboration between TVET



institute and industry, the results analysis and findings of this study identified gaps between TVET Institutes and Industries which needs to be minimized through improving the relationship and Effective communication between TVET institutes and local industries also relevant parties takes involvement, such as (Ministries of Education and Manpower, Ministry of Trade, etc. (Ali, M *et al.*, 2020) The model suggested to TVET institutes and local industries that TVET institutes need to be developed a Labor market information system (Database) to identify the daily base requirements of industries, Number of the workforce and technical skills they need, location of need, and Current and future need of workforce, also industries must provide the Internship programs, On the job training to the students of TVET institutes for better qualified Manpower, also When TVET institutes develop a Curriculum they must coordinate with industries. In last the Sindh Government heads needs to make an Apprenticeship Act in which pass the law of Collaboration and linkage between all the public and private Industries and TVET institutes will mandatory.

#### 4.5 Key Findings Objective Wise

##### Objective # 01

- The Current Status of TVET Institutes with respect to courses, programs, and training offered by Institutes was identified.

##### Objective # 02

- There is a lack of alignment of TVET outputs and need of industries,
- It is identified that the Programs, Training offered by TVET Institutes are in mismatch with the needs of local industries.

##### Objective # 03

- There is no significant relationship between TVET Institutes and the needs of local industries in District Shaheed Benazirabad.

##### Objective # 04

- A Model for effective utilization of TVET Institutes for industrial growth in District Shaheed Benazirabad is developed

#### 5. Conclusion

This study's main purpose was to investigate TVET institutes and identify their linkage between local industries and finally based on findings suggest the model for effective utilization for TVET institutes for better development of the industrial sector of District Shaheed Benazirabad. Through the reviewing previous literature identified gaps. Therefore, based on the research gap made a research question and objectives of research with the help of available literature and adopt a survey questionnaire from literature and distributed in a selected area of study such as in Four Targeted TVET institutes and six local industries in which collected data from Students, Heads of Local industries and TVET Institutes. The methodology used Quantitative for better exploration to the responses of Students and heads of TVET & Local industries. Firstly 220 Questionnaires were distributed but received only 170 responses, in which 110 responses were collected from four TVET institutes and the other 60 responses were collected from six local industries, all the survey responses were entered in SPSS for data analysis. Applied Cronbach's alpha test to check the reliability of the Questionnaire. For better understanding, the results of this research are shown in Pie, Bar, and column charts.

#### 5.1 Recommendations of Research

- TVET institutes need to establish a Labor market information system for a better understanding of local industries.
- TVET institutes must provide basic facilities to students such as libraries, Books. And for practical work also provide equipment and Machines.
- The industries need to organize internship programs for TVET students and offer on-the-job training to students.
- The industries need to consulted TVET institutes during the development of curriculum.
- Both TVET institutes and local industries do collaborative research for upcoming technologies.

- Both Local industries and TVET institutes organize workshops and exhibitions for the motivation of unemployed young people.
- There is a need for Industrial linkage officers in TVET institutes and Local industries.

### 5.2 Limitations Future direction of research: Limitations of Research

- This study was limited to Shaheed Benazirabad it can be extended to other cities
- Due to less time and availability of resources, this study does not visit all the Technical institutions of Pakistan.
- This study has studied few factors
- This study was limited to the current status of the TVET institute and their linkage with local industries, other factors might be TVET challenges, Curriculum Development etc.

### The future direction of research

- Future research will be conducted on the depth study focusing on the challenges of TVET Colleges in Sindh.
- There may be other factors that might study like Human resource development and Poverty Alleviation.
- Future research suggested that Technical vocational education is a tool for sustainable empowerment of youths in Pakistan.
- The future direction could find the relationship of TVET institutes and Poverty Alleviation in Pakistan.

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