

Effect of including global TVET worldview in TIMT (TVET Institute Management Training) on vocational institute management in Pakistan

Abstract

Since January 2017, the TVET Sector Support Program (TVET SSP) has entered a new phase to support the Government of Pakistan in enhancing access, equity, relevance and quality in skills development. In terms of content, TVET SSP is being implemented through four cross-sectoral intervention areas: 1) Policy and Governance, 2) Private Sector Participation in TVET, 3) Capacity Building of TVET Personnel/Human Resource Development (HRD), and 4) Implementation of Reformed TVET. The majority of TVET institutes in Pakistan are currently managed under traditional TVET management philosophy. In order to support the transition of current TVET management approaches to the newly introduced National Vocational Qualification Framework (NVQF), a significant capacity-building initiative was identified at national level. Two national and one international resource persons were engaged as trainers. Significant aspects of the global TVET worldview were incorporated into a three-phase cascaded training structure. This had a phenomenal impact as the majority of participants were either completely unaware or had very little knowledge of the UNESCO TVET strategy, Sustainable Development Goals (SDGs), social inclusion, and demand-driven TVET. By applying quantitative research methodology, this research concludes by recommending some additions and changes for future TIMT training activities in Pakistan in order to align them with the international TVET community.

Keywords: TVET, TIMT, Green TVET, social inclusion, TVET management philosophy, SDGs.

1 Introduction

Skills development and enhancement play a decisive role in achieving sustainable economic and social growth of a country. The development of the technical and vocational education and training (TVET) sector is an important element for community development and for achieving productive outcomes. Aligned with global competitiveness, the government of Pakistan is committed to reforming the current TVET system in Pakistan. Since January 2017, the TVET Sector Support Program (TVET SSP) has entered a new phase (TVET III). It aims to support the government of Pakistan to improve access, equity, relevance and quality in skills development activities through improved governance and private sector participation. The majority of the TVET institutes in the country are currently managed under traditional TVET management philosophy. In order to support the transition of the current TVET management approach to the newly introduced National Vocational Qualification Framework

(NVQF), a need for significant capacity-building support was identified, especially in the area of TVET institute management, for principals and managers. Training was structured to improve the overall quality of TVET institutional management, training implementation and to align the delivery methodology with the requirements of competency-based training and assessment (CBT&A). Two national and one international resource persons were engaged as consultants and trainers to establish an effective training approach which would empower TVET institute managers. The national expert was also expected to contribute to the development of training content, support delivery methodology and contribute towards assessment activities. Besides other tasks, the experts were also required to act as resource persons and trainers in the Master Trainer (TIMT TOT) program for Technical Education and Vocational Training Authority (TEVTA), Human Resource Development (HRD) Managers and TVET principals. Training was designed in three phases; first, one week of face-to-face training, a second phase based on distance learning training, before returning to face-to-face training in week three. Major training content included operational aspects and activities ranging from TVET planning to execution. The experts were given a free hand to prepare training content to achieve the objectives. Significant aspects of the global TVET worldviews were introduced systematically into a three-phase cascaded training model. The three phases of all training workshops helped to familiarize participants with various aspects of global TVET concepts and practices. Participants were required to work on an individual project of their choice from the content covered during the first phase. The second phase focused on the execution of participants' return to work plans (RWPs). This represented the distance learning phase, with trainers remaining in contact with all participants during the three-week-long period. Feedback and updates from participants were collated by telephone and via dedicated social media groups to ensure 100% attainment of RWPs. The final week or third phase included contemporary vocational institute management ideas, case studies, and participants' RWP presentations, supported by evidence of the work they did on their respective projects. One salient feature of these TIMT workshops remained the learner centric approach and inclusion of games, activities and physical exercises to boost group work, leadership skills and personality evaluation practices. Each training cohort (of 25 participants) shared digital stories to make the experience memorable and interesting. This also greatly helped to create a strong networking and bond among the diversified participants, from both the public and private TVET sectors. The multiple locations and cities used for these workshops included Lahore, Bahawalpur, Faisalabad, Gilgit and Islamabad.

2 Purpose of research study

The purpose of this research study is to improve the understanding of TVET Institute Management systems and identify factors within the institutes in the context of global TVET perspectives. It investigates the impact of significant global trends advocated throughout the series of TVET Institute Management Training (TIMT). The training model was executed in the year 2018 and 2019, following up with revised TIMT content from the current year. As the consultant and national trainer for both TIMT projects, the researcher studies the impact

of including global TVET concepts in vocational institute management. Elements of UNESCO TVET strategy, Sustainable Development Goals (SDGs), the implication of social inclusion in TVET, demand-driven TVET, and best international practices were incorporated into the content of these five-week-long training activities for each cohort. More than 450 principals, heads, and administrators of TVET institutes across Pakistan were invited, including more than 100 participants from the Punjab TEVTA, 25 participants from the Gilgit-Baltistan region, 35 participants from the Punjab Vocational Training Council (PVTTC), 25 participants from the capital city of Islamabad, 25 participants from the Azad Kashmir region, and the same number of participants representing all provinces of the country from public and private TVET institutions. Training methodology was interactive and mainly activity-based, with a strong emphasis on creativity, leading to maximum advocacy, awareness and adoption of selected global TVET worldview perspectives. How this training content functions is vital when it comes to planning the training of future institute heads. The study anchors look at trends in teaching methods, development of new competencies, contemporary managerial and administrative practices, training formats and the role of institute heads in implementing vocational programs in green jobs, digitalization, entrepreneurship and education. In doing so, the study draws on the experiences of TVET professionals from across all of Pakistan. Demand-driven advocacy fosters understanding and prepares a path to move on from the current supply-led management approach. Concepts like Institute Management Committees (IMCs), Industry 4.0, analysis of regular training needs from specific trades were shared to strengthen institutes' ties with industry and encourage better employability of students. Case studies of successful TVET institute practices from various regions (including South Africa, Philippines, Sri Lanka, etc.) were carried out to broaden participants' perspectives.

3 Significance of the Study

This research promises to fill the knowledge gap for future mapping of TVET teaching and institute management with a focus on adopting global TVET practices. This research contributes significantly to the future planning of training vocational institute heads and principals in Pakistan. It is also helpful for policy-makers at a macro level to get an insight into modern TVET management approaches. Stakeholders include the National Vocational & Technical Training Commission (NAVTTTC) Pakistan as executive partner, all provincial TEVTAs for TVET implementation and GIZ as implementing partner organization. TVET institutes in the private sector may use this research to develop TVET programs in order to increase trainers' understanding and contribution to a pluralistic TVET in Pakistan. The impact of adaptations to the curriculum can also be used for in-service teacher training programs in TVET. Curriculum development for TVET classes is mostly based on a behavioristic approach. A constructivist approach is necessary for the effective transfer of entrepreneurial, digitalized and sustainable curricula to the TVET students to proactively promote the idea of green jobs and add value to the global Pakistani workforce.

4 Literature review on TVET in the light of UN agenda and global TVET worldviews

Technical and Vocational Education and Training (TVET) represents a key avenue in helping to achieve the objectives of ESD. In 2004, the Bonn Declaration on Learning for Work, Citizenship and Sustainability became instrumental in defining the sustainable development role of TVET, stating that:

“Since education is considered the key to effective development strategies, technical and vocational education and training (TVET) must be the master key that can alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve sustainable development.”

It further emphasized that:

“Preparation for work should equip people with the knowledge, competencies, skills, values and attitudes to become productive and responsible citizens who appreciate the dignity of work and contribute to sustainable societies.”

Enormous efforts have been made in the past to meet the goal of raising the quality of skills and employability of trainees, going back to the benchmark Agenda 21 which was conceived and shaped during the 1992 Earth Summit (UNCED) in Rio de Janeiro. This focused on efforts for a plan of action towards sustainable development in the 21st century, shedding light on the need for an agreed stance to incorporate environment and development education in both formal and informal education sectors. This was in tune with the government’s aim of coming up with strategies that would have an impact within the next three years. The conference was a huge success in terms of presenting this new paradigm, emphasizing the vital role of sustainability and environmental protection at all levels of education. It also resulted in the establishment of a special framework called the United Nations Decade of Education for Sustainable Development (UN DESD) from 2005-2014. Since then, we have seen exceptional instances of some countries playing a responsible role, whilst others have remained predominantly reactive in their approach and failing to identify the relevant issues. Nevertheless, different stakeholders need to collaborate in order to deliver innovative ideas and to improve the skills gleaned from TVET programs. Key stakeholders for the TVET system include: TVET experts training institutions, government officials, international consultants and so forth. Partnerships between key stakeholders can surely help to improve the structures of the programs introduced under the TVET system.

The Five-Dimensions Model of Green TVET presented by UNESCO-UNEVOC International Centre is also another promising tool that has been introduced into the training sphere. Not only is the framework easy to understand, it also promotes the specific role teachers and institutional management and their expected contributions at a micro-level.



Figure 1: Five Dimensions of Greening TVET (Majumdar 2019)

5 Methodology

Methodology is a scientific way to solve research problems in various steps. Quantitative research methodology is the instrument which has been used in this research, with quantitative analysis keeping in mind elements or factors directly or indirectly related to TVET worldviews. The study group in this quantitative approach includes principals or senior management executives from the Provincial TEVTAs, National Vocational and Technical Training Commission (NAVTTTC), along with private sector representatives. Data was collected from both genders, male and female. Professional working experience of the participants varied from one year to more than thirty years. The sampling technique used in this research is convenience sampling.

5.1 Research Paradigm

In enlightening exploration, the word paradigm is used to define an investigator's viewpoint in relation to the world. According to Lather (1986), a research paradigm follows the investigator's opinions about the world that he inhabits, the world in which he wishes to exist. As paradigm is determined by the nature of research, in this case quantitative, the research paradigm adopted is positivism. Positivism is a philosophical theory which states that certain knowledge is based on natural phenomena, their properties and relations.

5.2 Research Design

The cross-sectional design of this study is observational in character, making it possible to measure the outcome of training activities and contributing to the knowledge of training participants. The research has also been designed to assist in assessing the comparative impact of different TVET worldviews incorporated in the training content. Including participants' RWP (return to work plans) gave them a reasonable insight into designing and implementing a small scale project in their institutions. Projects were conceived during the first phase of training, executed in the second phase and presented in the third phase. Data for

this research was collected after a gap of approximately six to eight months for each training cohort in order to evaluate participants' capacity for learning retention and practical implementation of content covered during training. Google forms were helpful in gathering data, with respondents coming from all four provinces and two regions of Pakistan. Responses were kept anonymous to ensure participants' privacy and confidentiality.

5.3 Sample Size

The population of this study comprised vocational institute principals, senior teaching and non-teaching staff from public and private sector. This population is considered most relevant and also the most promising with regard to becoming agents for change by implementing global TVET worldviews in their respective training institutes. 221 participants volunteered, creating a useful sample size for this study. Ideas and responses were submitted through the online survey from more than 450 TIMT participants.

6 Findings

68.3% of the participants in the study were male and 31.7% were female. 37.6% of respondents had experience within a range of 11-20 years. Table 1 in the appendix shows that, out of 221 respondents, 47.9 % supported the idea that *UNESCO TVET strategy* is useful, suggesting that the training was a success. 52% of the respondents accepted the fact that they apply UNESCO TVET strategies in their institutes after training and believe that 1) youth employment & entrepreneurship, 2) gender equity & equality, and 3) sustainability in UNESCO TVET strategy are useful in the context of their institutions.

Table 2 in the appendix describes the percentages of respondents relating to each item of the survey. 38.5% of respondents accept that *17 Sustainable Development Goals* are useful. 54.3% of respondents consider the concept of *Social Inclusion in TVET* as extremely useful knowledge. 43.4% of respondents found the overall training to be extremely useful. 62% strongly favoured the concept and application of demand-driven TVET. 49.8% vouched for learning and practising the best international TVET practices for their organisational development in contrast to five respondents who considered it less helpful. Finally, out of 221 respondents, 57.5% recognized *TIMT learning & development* as helpful in improving overall institutional standards, whilst four respondents considered it less useful. The table for frequency tests is available in the appendix.

6.1 Data Analysis

Four variables have been used: Motivation of Institute Head (MIH), Performance of Institute Head (PIH), Awareness of Global TVET Worldview (AG_TVET) and Vocational Institute Management (VIM). A Google survey of eleven questions elicited feedback from 221 respondents. Statements were clustered under the four variables described in the table below:

Table 1: **Clustering of items in reference to four variables**

Motivation of Institute Head (MIH)	<p>Q5. How do you rate your learning about the concept of Social Inclusion in TVET?</p> <p>Q7. How do you rate your learning about the concept of demand-driven TVET?</p> <p>Q9. How do you rate your learning about best international TVET practices?</p>
Performance of Institute Head (PIH)	<p>Q3. How do you rate your learning about UNESCO SDGs (17 Sustainable Development Goals)?</p> <p>Q11. How did the overall TIMT learning & development help you in further improvement of your institute?</p>
Awareness of Global TVET Worldviews (AG TVET)	<p>Q1. How do you rate your learning about three elements of UNESCO TVET strategy (1-youth employment & entrepreneurship, 2-gender equity & equality, 3-sustainability {Green TVET})?</p>
Vocational Institute Management (VIM)	<p>Q2. Rate the application of three major elements of UNESCO TVET strategy in your institute after training.</p> <p>Q4. Rate the application of related UNESCO SDGs (17 Sustainable Development Goals) in your institute after training.</p> <p>Q6. Rate the application of any Social Inclusion initiative in your institute after training.</p> <p>Q8. Rate the application of any demand-driven TVET initiative in your institute after training.</p> <p>Q10. Rate the application of any best international TVET practice followed in your institute after training.</p>

The clustering of questions is done on the basis of training content covered against each research variable, as well as expected training outcomes reflected through the post training of the participants and how they manage their institutes. Suggestions from the human resources departments of TEVTAs were also considered, particularly for the two variables Performance of Institute head (PIH) and Vocational Institute Management (VIM).

Data was analysed through SPSS (Statistical Package for Social Sciences) by conducting tests which included normal distribution, reliability, Cronbach's alpha, KMO and Bartlett's test. A communality test was done to validate the authenticity of data. Results obtained from each test are described in brief below.

6.2 Test no 1: Frequency Analysis

This analysis was carried out to predict the frequency and percentage of respondents. Out of 221 respondents, 106 supported the premise that *UNESCO TVET strategy* is useful as a learning result from the training undertaken. Only two respondents considered it useless. 115 respondents believe that 1) youth employment & entrepreneurship, 2) gender equity & equality, and 3) sustainability in UNESCO TVET strategy, whereas nine respondents who considered these to be insignificant. 85 respondents accept that *17 Sustainable Development Goals* are useful and only two respondents consider them useless. 120 respondents favoured the concept of *Social Inclusion in TVET* as extremely useful knowledge, with 20 respondents considering it moderate. Two respondents believed it to be of no use. 96 respondents found the overall training extremely useful, 34 considered it moderate and two respondents rated it below moderate. 137 respondents strongly favoured the concept and application of demand-driven TVET and only two respondents considered it useless. 110 respondents vouched for learning and practising the best international TVET practices for their organisational development in contrast to five respondents who deemed it to be less helpful. Finally, 127 of the 221 respondents recognize *TIMT learning & development* as helpful in improving overall institutional standards and only 4 respondents considered it less useful.

6.3 Test no 2: Normality Tests

This test was run to check the normality of the data. Histograms in the appendix (see figure 1) depict the normality of VIM and AG_TVET. The tables indicate standard deviations of VIM and AG_TVET as 0.602 and 0.762, approximately equal to 0.6 and 0.8 respectively, showing that the data is reasonably distributed. It also illustrates the normality of MIH and PIH with standard deviations of 0.562, approximately equal to 0.6.

6.4 Test no 3: Reliability Test

This test was conducted to check the reliability of data. All 221 survey responses were collated to run the reliability test. Considering the significance of Cronbach's alpha value in measuring data consistency, findings were restricted to the value of Cronbach's alpha, which is above 0.7 and 0.891 for 11 items.

6.5 Test no 4: KMO and Bartlett's Test

This test consists of two parts: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. Findings of the KMO value (0.822) strongly support data suitability, since it is greater than 0.7, whilst 0.000 as the value of Bartlett's Test is also significant, being lower than 0.05.

Besides the above tests, the percentage of variance associated with the respective sections of the instrument have also been calculated as communalities and presented in tables 3 and 5 of the appendix.

7 Discussion

Significant resources are being invested to strengthen the TVET system, structure and operations in Pakistan. The European Union is a major donor to the massive reformation program, with GIZ acting as its implementing partner in collaboration with the national apex body in the country, NAVTTC, and all provincial and regional TEVTAs acting as major stakeholders as well as beneficiaries of the initiative. The human resources development component has been one of the key areas during the current phase of this reformation, i.e. 2017-21. Huge efforts and enormous financial and other resources have been invested in training TVET professionals working at different levels and positions, including teachers, technical and laboratory staff, assessors (specifically for the Competency Based Training programs), administrators and principals. The expected results from the current phase of this reformatory program, called TVET Sector Support Program (TVET SSP) include training 3800 TVET teachers, 1500 assessors, 500 principals of public and private TVET institutes, 25 chief master trainers, and 100 master trainers.

It is opportune to assess not only the general impact of these training interventions but also to evaluate the content of training, its level of acceptance and subsequent application by participants. The TIMT (TVET Institute Management Training) program is unique in multiple ways for being perceived locally, inspired globally, contextualized to meet both national and regional needs, and achieving results on a par with international standards. The cascaded training format in three phases was an unprecedented initiative in the country. Positive word of mouth reports and feedback from trainees as well as organizers prompted the second phase of TIMT. The concept of including the TVET worldview was carefully conceived for dual purposes: (a) to impart knowledge aligned with global practices as seen by principals of TVET institutes, and (b) to motivate these senior level management professionals through underlining the crucial role of their professional positions and the potential impact they can contribute in their roles.

This study was conducted to investigate the post-training effect of global TVET worldviews and tendencies as shown by participants towards their institute-based management perspectives and any changes/transformations that they may have been able to incorporate as result of what they learned from this training. The results can play a significant role in designing and implementing future training initiatives. Various statistical test results highlight some extremely salient points that could enlighten future planning. Firstly, the overall TIMT learning & development initiative is given due importance and positive recognition by a majority of respondents. The of majority of participants responded to the effect that the implementation of international TVET practices following training is most beneficial and worthwhile. Principals and institute administrators find these tools helpful in educating and motivating their teams, their staff, and their students. Secondly, the concept of demand-driven TVET is prominently considered significant by participants since it addresses a range of financial and administrative challenges faced by majority of TVET institutes in Pakistan. The framework of future training activities needs to be more keenly contextualized and customized to regional needs. Further exploration in collaboration with local industry and

stakeholders will do much to enhance vocational institutes' performance. Surprisingly, the concept of social inclusion in TVET is considered less important than the former, which poses serious questions, since the acute need for social inclusion in the context of Pakistan is overwhelming. The third major finding is also a concern for organisations and personnel who are involved in designing and implementing training programs. Most participants were totally unaware of the elements and rationale behind UNESCO TVET strategy. This was evident during the training program and current research also reflects the sense of isolation in most training institutes. Information about the progressive global TVET agenda or priorities defined by the UNESCO TVET strategy was either inadequate or non-existent in their working environment. Training helped participants to see the bigger picture and recognize the common challenges faced by the TVET community across the globe. Training participants believe this knowledge greatly helped them in designing, prioritizing and executing various functions in their institutes. The three components of UNESCO TVET strategy, i.e. youth employment & entrepreneurship, gender equity & equality, and sustainable TVET also helped to understand the goals that governments are setting at a national level. It aligned institutional goals with global perspectives. Finally, the fourth major finding highlights the level of priorities set by planners and training organizers. It reveals a remarkably low level of understanding and lack of familiarization among principals and senior administrators with regard to the concept of Sustainable Development Goals (SDGs). Although the relatively new national TVET policy of Pakistan is evidenced by four of seventeen SDGs, it was by and large a new concept for the vast majority of participants. With over a decade gone in the global advocacy of SDGs and their prime importance for every country, the TVET community in Pakistan seems rather passive. Awareness and willingness are essential for TVET professionals, especially for top executives, institute heads and senior instructional heads. This merits serious consideration when planning future training ventures. The TVET sector in Pakistan cannot afford to be left behind the rest of the world, which is striving to achieve these goals by the year 2030. This must not serve the purpose of merely adding cognitive knowledge. The phenomenon needs to be explored in detail to incorporate TVET policies and practices from macro to micro level, countrywide in all sectors and trades.

8 Conclusion

The statistical analysis provides a sufficient base for the argument that awareness of Global TVET worldviews has positively impacted the management of vocational institutes in Pakistan as result of the TIMT program. However, further study could certainly be done to investigate the strategic outcomes achieved at institutional level, which are led by institute principals who took part in this training program. Furthermore, it highlights significant areas and content that need to be developed, explored and imparted in future TVET institutional management training ventures. The variance of impact across several elements of the TVET worldview provides a thought-provoking agenda for TVET stakeholders in the country. The next phase of TIMT promises to open up more learning and development opportunities to counter the challenges based on results of this study.

Furthering the emphasis on understanding and practicing concepts that are inspired by TVET worldviews should remain at the heart of training content design. The study could support policy makers in identifying and mapping both pre- and post-training knowledge, skills and the attitudes of participants. It will be extremely interesting to investigate the impact of such training content on a regional basis in order to prioritize and set an agenda for learning on the level of institutional heads. This task would require mutual agreement among all provincial TEVTAs, NAVTTC at a national level, along with other stakeholders who contribute to the planning and implementation of TVET's agenda for change in Pakistan. It is also emphasized that trainers need to design rigorous training approaches, methods and content that will add value to TVET professionals' knowledge base and help them to understand global perspectives. Only then will the TVET sector in Pakistan be in a position to achieve maturity and fulfil its potential in making an effective contribution towards global needs. These global concepts and phenomena should be communicable to and through principals and administrators and, indeed, in-service teachers in all TVET institutes. The Government of Pakistan is ambitious in skilling up its vast youth population and enhancing its workforce in the country so they may contribute to increasing national income, as well as being able to place trainees abroad to raise foreign remittances. It would be naïve to think it possible to prepare an effective workforce for the world without introducing them to the global TVET worldviews. Principals and teachers must, therefore, be fully equipped and competent in their knowledge and understanding of the desired global perspectives and practices.

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Appendix

Table 2: **Comparison of trainees' learning (during training) and application (post training)**

	Qs 1: Rate your learning about three elements of UNESCO TVET strategy (1-youth employment & entrepreneurship, 2-gender equity & equality, 3-sustainability {Green TVET})?	Qs 2: Application of three elements of UNESCO TVET strategy in your institute after training.
Sometimes Useless	2.3%	4.1
Moderate	8.1 %	18.1
Sometimes Useful	41.6 %	52.0
Useful	47.9	25.8

Table 3: **Percentages of responses to instrument items**

Questions	Sometimes Useless (%)	Moderate (%)	Sometimes Useful (%)	Useful (%)
Q3	0.9	23.5	37.1	38.5
Q4.	4.1	25.3	49.3	21.3
Q5.	0.9	9.0	35.7	54.3
Q6.	2.3	15.4	38.9	43.4

Q7	1.8	0.9	35.3	62.0
Q8.	1.8	14.5	43.0	40.7
Q9.	2.3	19.9	49.8	28.1
Q10.	1.3	12.2	58.4	28.1
Q11.	1.8	5.0	35.7	57.5

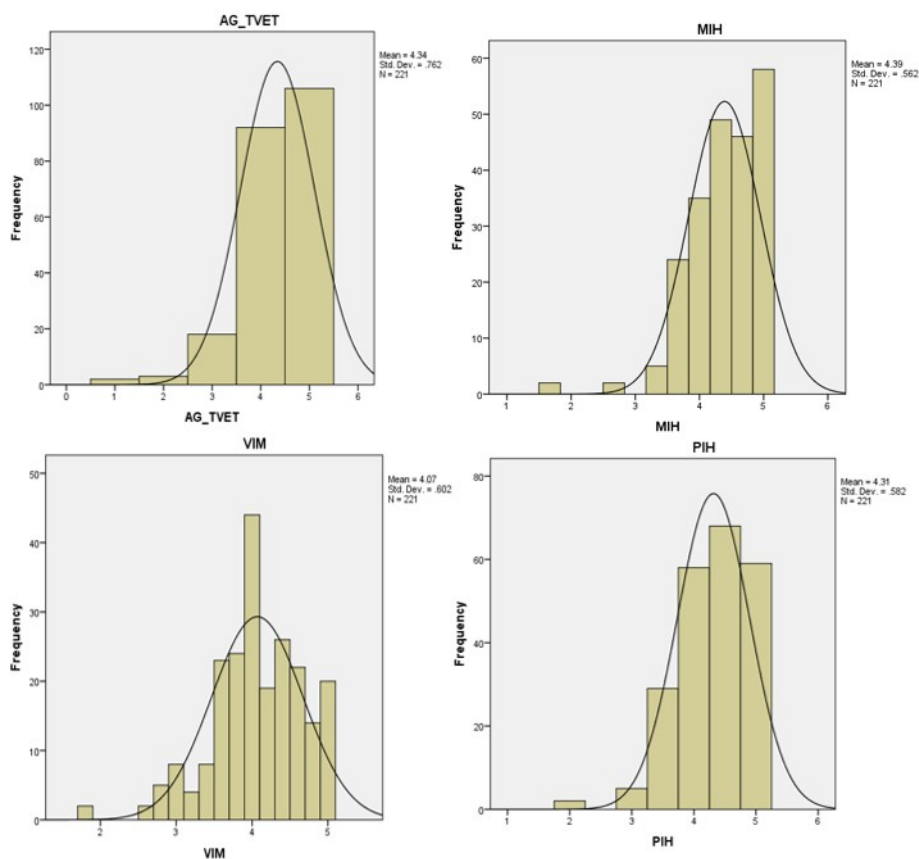


Figure 2: Normality of Data Set through Histograms

Table 4: **KMO and Bartlett's Test of all variables**

Tests	Values
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	.822
Bartlett's test of Sphericity	.000

Table 5: Communalities of all variables

Variables	Initials	Extraction
Motivation of Institute Head (MIH)	1.0000	0.756
Performance of Institute Head (PIH)	1.0000	0.768
Vocational Institute Management (VIM)	1.0000	0.724
Awareness of Global TVET Worldview (AG_TVET)	1.0000	0.620

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Author(s) Profile



Gouhar Pirzada

STEP Skills Development Foundation (SSDF)

E-mail: gouhar.pirzada@step.edu.pk