



MINING QUALIFICATIONS AUTHORITY

**RESEARCH STUDY TO EXPLORE EMPLOYERS' PERCEPTIONS OF THE TVET
SYSTEM ON SKILLS DEVELOPMENT IN THE MINING AND MINERALS SECTOR**

Final Report

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List of Acronyms

4IR	Fourth Industrial Revolution
ASM	Artisanal and Small-Scale Mining
CET Act	Continuing Education and Training Act
CET	Community Education and Training
CHE	Council on Higher Education
CLAS	Cement, Limestone, Aggregates and Sand
CSIR	Council for Scientific and Industrial Research
DHET	Department of Higher Education and Training
EC	Eastern Cape
ERRP	Economic Reconstruction and Recovery Plan
FET	Further Education and Training
FS	Free State
GDP	Gross Domestic Product
GP	Gauteng Province
HRD	Human Resource Development
HRDC	Human Resource Development Council for South Africa
ICMM	The International Council on Mining and Metals
ILO	International Labour Organisation
KZN	KwaZulu-Natal
LP	Limpopo Province
LSM	Large-Scale Mining
MEMSA	Mining Equipment Manufacturers of South Africa
merSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority

MMS	Mining and Minerals Sub-sectors
MP	Mpumalanga Province
MQA	Mining Qualifications Authority
MRS	Market Research Society
N3	National Technical Certificate
NATED	National Accredited Technical Education Diploma
NCV	National Certificate Vocational
NC	Northern Cape
NDP	National Development Plan
NSDP	National Skills Development Plan
NSDS III	Third National Skills Development Strategy
NSF	National Skills Fund
NQF	National Qualifications Framework
NW	North West
PGM	Platinum Group Metals
PIC	Public Investment Corporation
PLP	Pre-Vocational Learning Programmes
PSET	Post Schooling Education and Training
QCTO	Quality Council For Trades & Occupations
SACE	South African Council for Educators
SACPO	South African College Principals Organisation
SETA	Sector Education and Training Authority
SRC	Student Representative Council
TVET	Technical Vocational Education and Training

UoT	University of Technology
UNESCO	The United Nations Educational, Scientific and Cultural Organisation
VETA	Vocational Education and Training Authority
WC	Western Cape Province
WIL	Work Integrated Learning
WP-PSET	White Paper for Post School Education and Training
W&R	
SETA	Wholesale and Retail SETA

Glossary of Terms

4IR	An era where people are using smart, connected and converged cyber, physical and biological systems and smart business models to define and reshape the social, economic and political spheres.
Programme Delivery	The process of implementing and carrying out educational programs designed to provide students with practical skills and knowledge in specific fields.
Skills Gaps	Discrepancies between skills available and the skills required for specific roles.
Upskilling	To provide someone (such as an employee) with more advanced skills through additional education and training.
Workplace Integration	The alignment of the training provided by TVET institutions with the needs and requirements of the workplace.
Industry Exposure	Opportunities provided to students to gain first-hand experience and insight into the workings of the industries relevant to their vocational training.
Technical Skills	Specific abilities, competencies, and proficiencies that students acquire through vocational education and training programs.
Practical Skills	Hands-on abilities, competencies, and proficiencies that students develop through experiential learning and application of theoretical knowledge in real-world settings.
Soft Skills	Soft skills, also known as interpersonal skills or personal attributes, are non-technical skills that are valuable in the workplace and contribute to an individual's effectiveness in performing their job duties and interacting with others.

Quantitative Data	Quantitative data, consists of numerical information or data that can be measured and expressed using numbers.
Qualitative Data	Qualitative data refers to non-numerical information that is descriptive in nature.

Executive Summary

In line with the directive to bolster skills development, the MQA has partnered with 30 Technical Vocational Education and Training (“TVET”) and 9 Community Education and Training (“CET”) colleges nationwide. These collaborations provide financial support to TVET colleges for Work Integrated Learning (“WIL”) placements, allowing learners to qualify in various disciplines. This spans fields like hospitality, business studies, marketing, primary health care, as well as engineering studies within the MMS. These partnerships align with the DHET's goal of strengthening colleges to fulfil the national skills development mandate. They respond to initiatives like the National Skills Development Plan (“NSDP”), the Economic Reconstruction and Recovery Plan (“ERRP”), the New Growth Path, and the National Development Plan (“NDP”), all emphasising skills development in different ways.

Despite the support provided to the TVET system by the MQA, the perception of TVET colleges in the mining industry is a critical concern warranting investigation, with a wariness towards TVET institutions being noted.

While the MQA has made significant efforts in upskilling the sector through the provision of support to the TVET system, it is important that the MQA investigate how employers perceive the effectiveness of the TVET system in providing the necessary competencies to the MMS in order to gather valuable insights into the perceptions, experiences, and perspectives of employers on the TVET system in meeting the skill supply requirements of the sector. Understanding MMS employer perceptions of the TVET system is a key step in formulating strategies to improve the relevance and responsiveness of said system in supplying skilled workers to the MMS.

In light of the above, this Project therefore, aimed to conduct research to assess employer perceptions of the TVET system on skills development in the MMS.

Research Methodology

A mixed methods approach was adopted as part of this project, which involved the collection of both qualitative and quantitative data through desk-based and field research.

The desk-based research conducted included conducting an in-depth review of literature pertaining to the historical context underpinning the formation of the TVET

system, key stakeholders in the TVET system, TVET governance, the curriculum development process and nature of programme delivery, the perceptions regarding quality of TVET graduates and international best practices in terms of how partnerships can be leveraged to enhance TVET offerings.

Field research included consultations with employers in the sector, and as mentioned above, consisted of surveys, in-depth interviews and focus groups. The following table provides a breakdown of the number of completed consultations against the target consultations for the project, per consultation type. A total of 193 consultations were completed.

Table 0-1: Target Consultations Against Completed Consultations

Data Tools	Collection	Target Consultations	Consultations Completed
Surveys		Up to 245	158
Interviews		Up to 45	23
Virtual Groups	Focus	3 with up to 10 participants each	3 with a total of 12 participants
Total		320	193

Demographic Details of Respondents

Of the organisations that participated in the Study, 31% were from Gauteng. This was followed by 18% from the North West, 15% from Limpopo, 13% from Mpumalanga and 10% from the Northern Cape. Organisations from the Western Cape, Free State, KwaZulu-Natal and the Eastern Cape made up 6%, 4%, 3% and 1% of respondents, respectively.

In terms of company size, 45% of respondents represented large organisations, whilst 20% represented medium and 35% represented small organisations. 30% of respondents indicated that they were from the other mining sector, followed by 17% from coal mining and 13% from PGM mining.

Research Findings

Employers perceptions of various facets of the TVET system were explored, including perceptions of TVET governance, TVET curriculum, programme delivery, lecturer and TVET capacity, learner support services, graduate quality and current partnerships. The following provides further detail regarding employer perceptions across each of these dimensions.

TVET Governance

Overall, 78% of employers indicated that the TVET governance structure ensures effective management, coordination and oversight, whilst 73% agreed that DHET provides sufficient guidance to TVETs. It may be noted that only 30% of employers indicated that representatives from their organisations form part of a TVET college council, suggesting minimal employer representation on TVET college councils. This indicates a potential area for improvement in terms of ensuring collaboration between TVETs and industry in order to promote alignment between industry needs and TVET offerings.

TVET Curriculum

Overall, 75% of employers indicated that they are satisfied with the quality of qualifications available through the TVET system, with a further 80% indicating that the TVET curriculum is effective in terms of ensuring the development of a skilled MMS workforce. One of the key areas for improvement noted as it pertains to TVET curriculum was related to employers being provided with the opportunity to supply input on the TVET curriculum, with only 53% of employers agreeing with this and 51% agreeing that TVETs consider input from employers. Employers noted that these engagements may be beneficial.

It was also noted that only 58% of employers agreed that TVETs offer programmes related to the 4IR and/or the latest developments in the sector, with employers indicating that TVETs appear not to respond to market needs and that new courses should be introduced in areas such as robotics.

Programme Delivery

The programme delivery within TVETs was perceived as mostly positive by employers, with 86% of employers indicating that the teaching and training delivery methods

effectively engage learners and enhance their learning experience, whilst 77% agreed that the assessment processes accurately measure the practical skills and knowledge acquired by learners. It was noted, however, that 61% of employers indicated that they are able to provide input on TVET programme delivery with employers indicating that there may be room to improve in terms of getting employers and the industry involved in programme delivery through the sponsorship of equipment or through partnerships.

TVET and Lecturer Capacity

In terms of lecturer capacity, it was noted that there appears to be room for improvement as it pertains to the capacity of lecturers. Only 57% of employers agreed that TVET lecturers receive sufficient training on the latest MMS developments that allows them to provide relevant training, indicating that there may be room to improve in this regard. Employers noted that enhanced lecturer training is required to ensure lecturers are adequately skilled and able to provide training on MMS related courses.

It was further noted that there appears to be limited engagement between TVET lecturers and industry, with employers indicating that lecturers have not been exposed to the industry resulting in a lack industry knowledge, which limits their ability to effectively train learners on the required skills. Only 39% of employers indicated that lecturers engage with their organisation to develop and expand their industry knowledge.

In addition to understanding employer perceptions regarding lecturer capacity, employers were also asked to indicate how they perceive the capacity of TVET colleges and the support TVET colleges receive. Whilst the majority of employers (90%) agreed that MQA provides adequate levels of support to the TVET sector, only 69% agreed that TVETs are adequately funded by the government whilst 58% agreed that TVETs have the required resources to provide relevant and up to date theoretical and practical training. Indicating room for improvement in this regard.

Learner Support

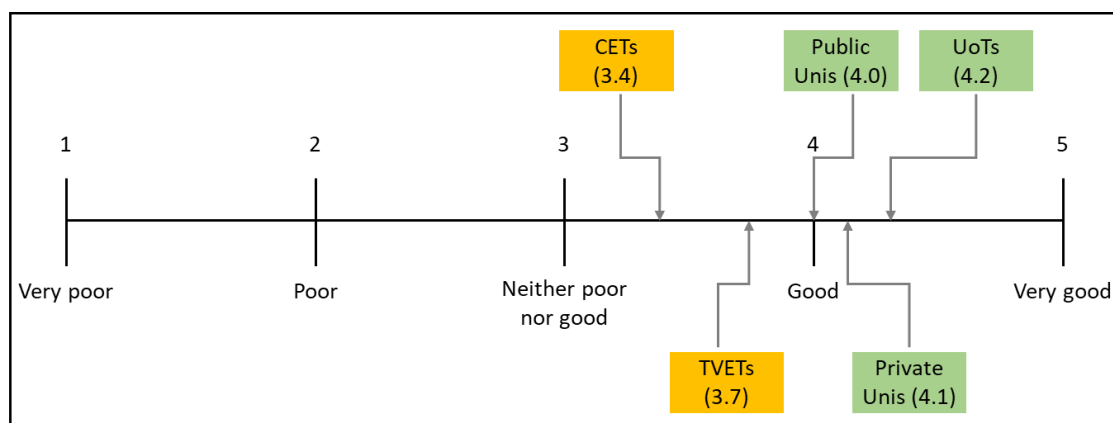
Overall, employers appeared to perceive the support offered by TVETs to learners fairly positively. 85% of employers were of the view that the career guidance and counselling services offered at TVET colleges help learners make informed decisions about their future within the MMS. Furthermore, 80% of employers indicated that the

support mechanisms that are in place within TVETs in order to assist learners in securing learnerships, apprenticeships and employment opportunities are effective and a further 80% were of the view that the psychological support services offered to learners at TVETs are adequate.

Quality of TVET College Graduates

The figure below indicates employer perceptions regarding the quality of TVET graduates, as well as their perceptions of the graduates of other institutions.

Figure 0-1: Perception of the Quality of Graduates per Institution



Source: MQA TVET Perception Survey, 2024

As can be seen, overall, TVET colleges received a score of 3.7 out of 5 in terms of quality, performing slightly lower than Universities of Technology, Private Universities and Public Universities. It was noted that this perception of TVET graduates may be as a result of the poorer perceptions of the broader TVET system.

In terms of a more specific assessment of the quality of TVET graduates, it was noted that only 60% of MMS employers agreed that learners exiting the TVET system are adequately prepared for the working environment, with employers indicating that TVET graduates appear to have a limited understanding of the work environment and that graduates do not demonstrate an understanding of industry standards. Similarly, 66% of employers indicated that the TVET system equips graduates with the competencies required by their organisation, with employers noting that graduates appear to lack an understanding of the MMS.

In terms of technical and soft skills, 73% and 74% of employers agreed that the soft and technical skills, respectively, that TVET graduates possess meet their

expectations. Insights from qualitative data suggest that there may still be room for improvement in terms of equipping TVET graduates with specific types of 'social' or soft skills, such as leadership and mentorship skills.

Partnerships with TVET Colleges

Of the organisations that participated in the survey, it was noted that only 30% of them had partnerships with TVET colleges, indicating an area for improvement. Stakeholders noted that the MQA should look to facilitate partnerships between TVET colleges and industry in order to ensure employers are aware of the offering within particular TVET colleges and to facilitate linkages in terms of placing employers for work placements.

In terms of employer perceptions of existing partnerships, it was noted that 92% of employers agreed that TVET and MMS stakeholder partnerships contribute to the development of a skilled and competent workforce. Furthermore, there appear to be positive perceptions of the effectiveness of partnerships between MQA and TVET colleges in terms of ensuring the implementation of work-based learning programmes, with 88% of employers agreeing to this statement. A lower percentage of stakeholders (69%) agreed that the mechanisms for communication and coordination between TVET colleges and employers are effective, with employers indicating that in certain regions there appears to be a lack of cooperation between employers and TVET colleges.

Recommendations

Section 8 details the key findings identified from the Project as well as the recommendations related to these key findings. In order to respond to the key findings identified, the MQA may:

- Establish provincial engagement forums to gather employer input on curriculum and programme delivery, to promote the relevance of TVET courses
- Facilitate the review and redesign of the TVET curriculum to include opportunities for learners to practice and develop their soft skills
- Issues a terms of reference for the development of a comprehensive digital platform to link TVET graduates with employers in the MMS and increase

communication through current platforms to provide employers with relevant information regarding the TVET system

- Conduct a review of the resources and equipment currently available in TVET colleges and to assess challenges faced and gaps experienced to understand how TVETs may be better resourced
- Develop and implement a marketing campaign aimed at destigmatising TVET educational pathways
- Continue the provision of funding for lecturer development and consider facilitating linkages between TVET lecturers and industry experts through the provisioning of additional funding for mentorship programmes between TVET lecturers and industry experts
- Develop a public-private partnership building strategy to provide guidance in terms of how partnerships between industry and TVET colleges may be established
- Conduct a review of the existing mechanisms for collaboration between industry and TVET colleges

1 Introduction

This Report, drafted by Redflank on behalf of the MQA, presents the findings from the research conducted on employer perceptions of the Technical Vocational Education and Training (“TVET”) system on skills development in the MMS (“the Project” or “the Study”).

The report illustrates and analyses feedback received from key stakeholders regarding their perceptions of the effectiveness of the TVET system across various areas, including governance, curriculum, programme delivery, TVET and lecturer capacity, learner support, quality of TVET outputs, and partnerships. The report also provides recommendations regarding potential strategic, practical, and innovative ways that the MQA may enhance the responsiveness of the TVET system to meet the skills requirements of the MMS.

The following table provides an outline of the sections contained in this document.

Table 1-1: Section Overview

Section	Contents	Description
1	Introduction	Introduces the report and provides an overview of the Project background and scope, as well as the significance of the Project.
2	Research Methodology	Describes the approach that was followed as part of the Project and includes an overview of the desk-based and field research that was conducted as well as the key limitations experienced.
3	Theoretical Framework	Provides an overview of the theoretical framework adopted for the Project.
4	Literature Review	Summarises the literature review conducted as part of this Study.
5	Demographic Details of Respondents	Provides the demographics of the employers who participated in the Study, including the sub-sector

		that they represent, the size of their organisation and the province in which their organisation is located.
6	Employer Perceptions of the TVET System	Provides the findings from the Study, as it pertains to the employer perceptions of various aspects of the TVET system, including governance, curriculum, programme delivery, TVET and lecturer capacity, learner support, the quality of TVET graduates and current partnerships with TVET colleges.
7	Key Findings	Highlights the key findings from the report and provides the basis from which recommendations will be made.
8	Recommendations	Details the recommendations that may be considered by the MQA as part of their response to the key findings identified as part of the research conducted.
9	Conclusion	Provides a conclusion to the Report.

1.1 Project Background

In line with the directive to bolster skills development, the MQA has partnered with 30 TVET and 9 Community Education and Training (“CET”) colleges nationwide. These collaborations provide financial support to TVET colleges for Work Integrated Learning (“WIL”) placements, allowing learners to qualify in various disciplines. This spans fields like hospitality, business studies, marketing, primary health care, as well as engineering studies within the MMS. These partnerships align with the DHET's goal of strengthening colleges to fulfil the national skills development mandate. They respond to initiatives like the National Skills Development Plan (“NSDP”), the Economic Reconstruction and Recovery Plan (“ERRP”), the New Growth Path, and the National Development Plan (“NDP”), all emphasising skills development in different ways. The NSDP, for instance, aims to enhance the college system's quality, expand learning opportunities, and improve throughput by 2030, recognising public colleges as pivotal drivers of socio-economic development (Mining Qualifications Authority, 2022).

Despite the supported provided to the TVET system by the MQA, the perception of TVET colleges in the mining industry is a critical concern warranting investigation, with a wariness towards TVET institutions being noted.

While the MQA has made significant efforts in upskilling the sector through the provision of support to the TVET system, it is important that the MQA investigated how employers perceive the effectiveness of the TVET system in providing the necessary competencies to the MMS in order to gather valuable insights into the perceptions, experiences, and perspectives of employers on the TVET system in meeting the skill supply requirements of the sector. Understanding MMS employer perceptions of the TVET system is a key step in formulating strategies to improve the relevance and responsiveness of said system in supplying skilled workers to the MMS, with the insights from this Project making significant contributions to this. Furthermore, the findings and recommendations that emerging from the Project may serve as valuable resources for MQA's stakeholders, (i.e. policymakers, practitioners, institutions forming part of the Post Schooling Education and Training ("PSET") sector) as well as stakeholders involved in skills development in South Africa given that it provides insight into how the MQA, and other stakeholders, can further support TVET colleges in order to enhance their ability to meet the skills needs of the sector (Mining Qualifications Authority, 2023).

1.2 Project Scope

The overall objective of this study was to explore the perceptions employers have towards the TVET system in providing the necessary competencies for the MMS. As part of this, the following research questions were answered through the production of Project outputs:

Table 1-2: Project Scope

#	Objective	Relevant Section in Report
1	What factors (e.g., historical, institutional etc.) influence employer perceptions of the TVET system?	Section 4; Section 6

#	Objective	Relevant Section in Report
2	How can TVET colleges be better capacitated to meet employer demands	Section 6.4
3	What are the perceptions of the quality of qualifications offered by TVET colleges? Are the qualifications relevant? Do they provide learners with the necessary skills required to operate in the working environment?	Section 6.2
4	What are the perceptions of the quality of TVET college graduates?	Section 6.6
5	What are the perceptions regarding TVET lecturers, the effectiveness of the current curriculum and teaching methods?	Section 6.2; Section 6.3; Section 6.4
6	What are the minimum requirements to become a TVET lecturer?	Section 4.3.6
7	What are employers' perceptions on TVET governance?	Section 6.1
8	How do employers' view the fit and/or alignment between TVET programmes and evolving industry demands and skills requirements?	Section 6.3; Section 6.6
9	Are employer perceptions of the TVET system different across different employer sizes? Are the perceptions different across different provinces?	Section 6
10	What form (s) of support does the TVET system require in order to be more responsive to sectoral needs?	Section 8

1.3 Significance of the Study

Amidst the dynamic landscape of skills development and industry demands, gaining insight into employer perceptions of the TVET system in critical sectors like the MMS emerges as essential in order to promote informed policy-making and strategic

interventions. The significance of this study lies in its comprehensive approach to understanding employer sentiments towards TVET colleges, particularly within the MMS. Despite substantial support from the MQA, there remains scepticism within the industry towards TVET institutions. Addressing these perceptions is paramount for the MQA to enhance the alignment between TVET programs and industry demands. Furthermore, the Study's findings and recommendations are aimed at not only informing MQA's strategies but also serve as valuable resources for policymakers, practitioners, and other stakeholders involved in skills development in South Africa, thereby fostering the ongoing improvement of TVET colleges and their ability to meet the sector's evolving needs.

2 Research Methodology

The following section outlines the methodology that was adopted for the Project, including the research design, sampling method, instrumentation as well as the data collection and analysis conducted for the Project. In addition, this section outlines the approaches adopted to ensure reliability and validity of the findings, the ethical considerations applied, as well as the research limitations and how these were overcome.

2.1 Research Design/Conceptual Approach

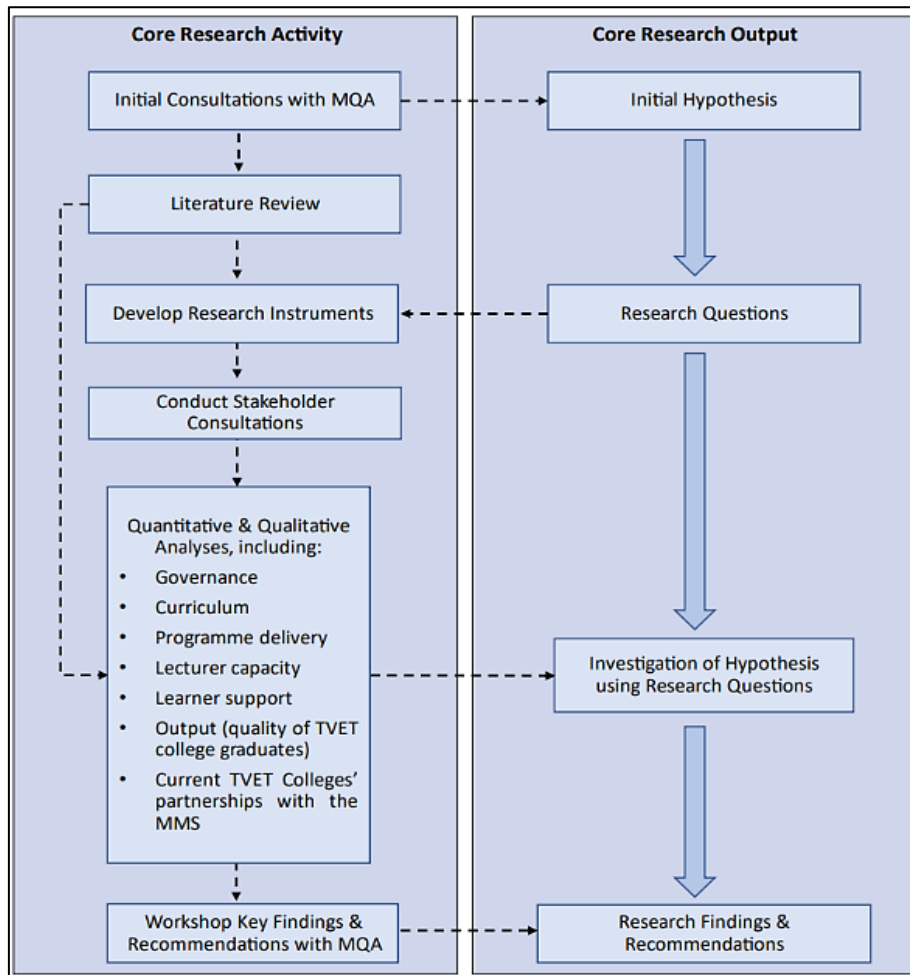
The approach proposed for this Project was based on Redflank's Defined Research methodologies, customised for this engagement and was premised on establishing fundamental principles for the Research Topic. These principles included:

- Defining the specific research questions to be investigated for the Project;
- Defining initial hypotheses through desktop research;
- Testing and refining the initial hypotheses through consultations with employers within the MMS;
- Developing recommendations to assist MQA in exploring the perceptions on the TVET system in areas such as governance, curriculum, programme delivery, lecturer capacity, learner support, output (quality of TVET college graduates), and current TVET Colleges' partnerships with the MMS, including best practices and recommendations for improving those partnerships.

In order to overcome the limitations of a single design, a mixed methods approach was adopted. The two designs complemented each other with each being used where relevant to collect the required data. Furthermore, as part of the Project, both desk-based and field research was undertaken. This ensured the development of sound key findings and recommendations.

The above is summarised by the figure below.

Figure 2-1: Conceptual Project Approach



2.2 Sampling Method

Sampling is defined as the process of selecting respondents, for example, people or organisations from a population and studying their behaviour, characteristics or traits to arrive at meaningful conclusions and develop recommendations that may be considered moving forward (Adwok, 2015). A key focus of this Study was ensuring appropriate sampling sizing. The following sections provide further detail regarding the sampling methodologies that were adopted in order to select participants for this Study.

2.2.1 Stratified Random Sampling

Surveys distributed to employers within the MMS were conducted utilising a stratified random sampling method. Stratified sampling is a probability sampling approach in which the population is divided into certain sub-groups, or strata, with participants then being randomly selected to participate in the Study from their respective sub-groups (Murphy et al., 2021). For the purposes of this Study, participants were grouped

according to the size of their organisation (i.e. small, medium, and large) and the province in which their organisation was based. Stratified sampling presented a number of advantages. As the typical aim is to reduce biases, this sampling method allowed for a highly representative sample to be drawn from the population, albeit with certain data possibly missing. Secondly, since there are probabilistic methods being employed, generalisations may be made much easier. This major advantage considers external validity in much more detail. In the case of this Study, stratified sampling was used to select employers to participate in focus groups and surveys.

Laerd (2012)¹, proposes five steps to be followed to ensure stratified random sampling is performed as effectively as possible. These steps, as outlined further below, were undertaken to obtain the research sample to be surveyed as part of this Study:

- **Step 1: Defining the population size**

The population size is typically the number of participants or units in an area. For instance, a population could be explained as all the employers within the MMS across the country. As part of Redflank's data sampling approach consideration was given to the Total Population, the Research Population, and the Research Sample. The Total Population equals the entire population of the stakeholder type to be researched, e.g., all employers. The Research Population equals the subset of the Total Population for which appropriate contact details were provided. The Sample Population is the subset of the Research Population that were consulted. Defining the population size is an important step as it allows researchers, academics, or writers to filter their results to obtain a sample size.

- **Step 2: Divide into strata**

The next step entailed choosing relevant stratification criteria and dividing the population according to these criteria or strata. The main criteria used for surveys were company size and the province within which organisations were located, while the criteria used for focus groups was provincial location.

- **Step 3: Determine sample size**

¹ For further information, refer to the following: <http://dissertation.laerd.com/sampling-the-basics.php>

In terms of calculating the overall sample size, this was calculated based on the research population size as well as required confidence levels. In the case of this Study, based on a research population size of 1824, a 90% confidence level and 5% margin of error, the sample size for this project was 238².

- **Step 4: Random Selection**

Organisations were randomly selected from each stratum, ensuring that each organisation contained within a specific stratum had an equal chance of being chosen. To do this, Redflank assigned numbers to each participant or unit. Assigning numbers to participants or units allowed researchers the ability to easily select random numbers. This step ensured that the selection process was unbiased, and that each unit or participant within a specific stratum had an equal chance of being chosen. As part of this Project, Redflank assigned numbers to each unit by:

- Creating a new column next to the existing records in the Research Sample for each stratum;
- Clicking on the first cell in the new column;
- Applying the formula '=RAND()' in the formula bar to generate a random value in the cell;
- Dragging the formula down to carry across all entries.

Assigning numbers to each unit ensured that the selection of the sample was done in a more simplistic manner, as compared to manual selections. Finally, the selected sample of individuals who were drawn from the population for that specific stratum were established.

Before the random selection process, Redflank conducted a data cleansing exercise to identify and remove participants for whom contact details were not provided or were inaccurate (such as email addresses without a domain) and to remove duplicate entries. The list of all participants (within a specific strata) for whom accurate contact details were available formed the population for that stratum.

- **Step 5: Combine Sample**

² The sample size is calculated using an online sample size calculator; <https://www.surveymonkey.com/mp/sample-size-calculator/>

The samples from each stratum (i.e., organisation size and province) were combined to form the final sample. Selecting a research sample based on the research population is a fundamental practice in research and data analysis which ensured that the research findings for this Study were accurate, reliable, and representative of the population of interest.

2.2.2 Purposive Sampling

Purposive sampling is a non-random sampling technique where researchers intentionally select specific individuals or groups from a population based on their unique characteristics or qualities (Nikolopoulou, 2023). This method of sampling presents a number of advantages, such as the opportunity to select all parties relevant to the study and the ability to target niche demographics to obtain specific data points. In conducting purposive sampling for this study, the steps which were followed included (Heath, 2023):

- Defining the purpose of the study: understanding the objectives of the project was essential in order to select the right participants.
- Defining the criteria for selection: this refers to specific criteria or characteristics that potential participants must possess to be included in the sample. These criteria, or guiding principles, are directly related to the research objectives and were used to inform the participants selected to participate in interviews and focus groups, are outlined in Table 2-1 below.
- Identifying, selecting and extracting the sample of individuals/ participants: the sample was identified from the research population according to the pre-determined criteria.

Purposive sampling was adopted in order to select participants for in-depth interviews. The table below highlights the principles that were used to guide the stakeholders, that were selected for the consultations.

Table 2-1: Purposive Sampling

Data Collection Tools	Stakeholder Type	Purposive Sample's Guiding Principles
Interviews	Employers	• Province • Size of organisation

2.3 Instrumentation

Primary data collection for this project consisted of:

- An electronic survey questionnaire;
- In-depth interviews; and
- Focus groups.

2.3.1 Electronic Surveys

In order to administer the electronic survey questionnaire a survey platform, namely, Survey Monkey, was used. This platform allowed for a large amount of data to be collected, tracked, and securely stored, and enabled the monitoring of response rates throughout the course of data collection. As part of the distribution process, an email detailing a description of the project, the purpose of the survey and a link to the survey was distributed to stakeholders. The recipients were requested to complete the survey online by a specified date.

The survey sought to gain an understanding of employer perceptions of the TVET system across various focus areas, including governance, curriculum, programme delivery, lecturer and college capacity, learner support, the quality of TVET graduates, and the current landscape in terms of partnerships between employers and TVET colleges.

2.3.2 In-Depth Interviews

In addition to conducting electronic surveys, key informant interviews were undertaken. These interviews were intended to address the above issues in a more qualitative manner, meaning that the intention was not to collect 'hard' data, but to further unpack employer perceptions surrounding the governance, curriculum, programme delivery,

lecturer capacity, learner support of TVETs, as well as the quality of graduates being produced and the current partnerships with TVETs and MMS organisations.

A sample of stakeholders, selected through purposive sampling, were contacted telephonically to participate in interviews. As part of this process, interviewees were informed about the project background and the purpose of the interview and were asked whether they were willing to participate. If the stakeholder was not available to participate in the interview at the time of the call, the interview was scheduled (using Outlook calendar) for a future date and time, upon which the interviewee was interviewed either virtually or telephonically.

2.3.3 Focus Groups

Further to the above, a sample of stakeholders (who were selected using stratified random sampling) were contacted telephonically and their participation in the focus groups was requested. The background to the Project and the purpose of the focus group were briefly explained to stakeholders. Where stakeholders agreed and consented to participate, an Outlook calendar invite containing the meeting link was distributed to them.

Focus groups were conducted with employers using virtual methods. Three focus groups were conducted, targeting representatives across each province. Taking into account the level of mining activity and number of contact details available, focus groups with employers across the different provinces were grouped as follows:

- Gauteng, North West, Mpumalanga and the Northern Cape
- Limpopo, Eastern Cape and Free State
- Western Cape and KwaZulu-Natal

2.4 Data Collection

Both desk-based and field research was used to obtain the findings contained within this report.

The desk-based research conducted consisted of:

- An in-depth literature review to obtain a baseline understanding of:
 - The historical context underpinning the formation of the TVET system;

- The purpose of the TVET system;
 - Key stakeholders in the TVET system;
 - The governance structures of TVET colleges;
 - The curriculum development processes followed by TVET colleges;
 - The nature of programme delivery within TVET colleges;
 - The quality of TVET graduates;
 - The current capacity of TVET colleges, including TVET lecturers;
 - The current landscape in terms of strategic partnerships between TVET colleges and the MQA; and
 - International best practices regarding how partnerships can be leveraged to enhance TVET offerings.
- A review of relevant reports including MQA's Sector Skills Plan (2023/24); Strategic plan (2020-2025); Annual Performance Plan (2023/24).

Field research included consultations with employers in the sector, and as mentioned above, consisted of surveys, in-depth interviews and focus groups. The following table provides a breakdown of the number of completed consultations against the target consultations for the project, per consultation type. A total of 193 consultations were completed.

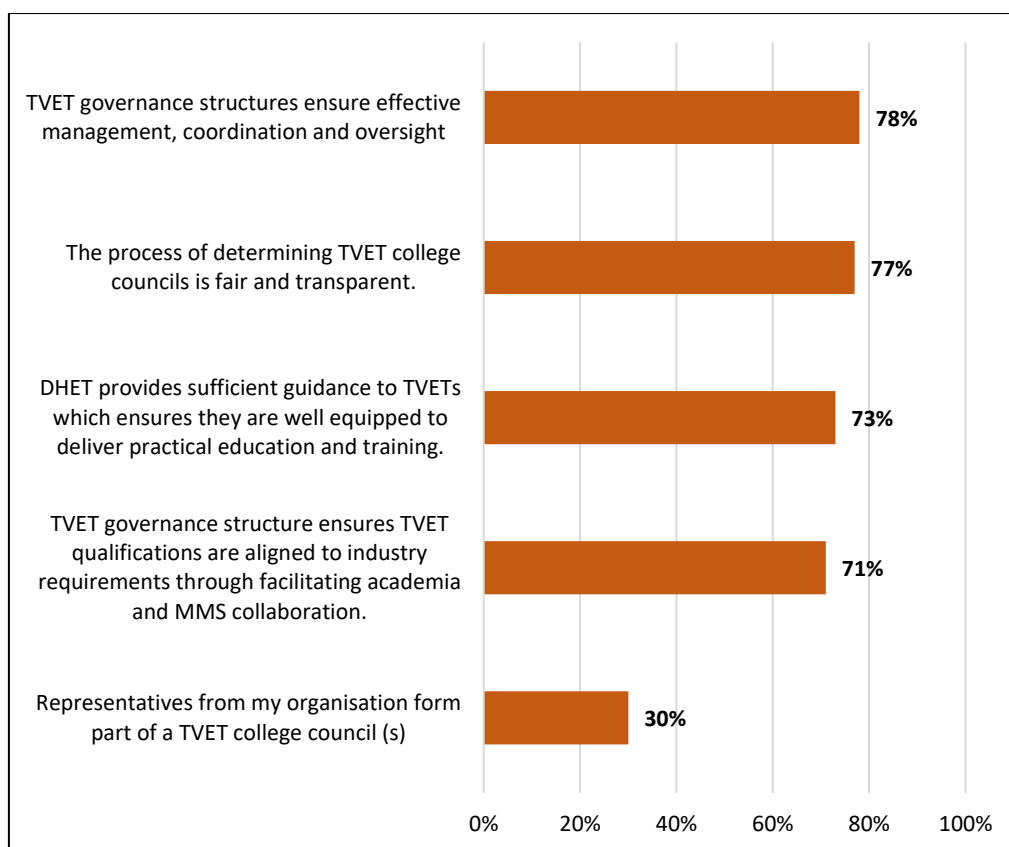
Table 2-2: Target Consultations Against Completed Consultations

Data Collection Tools	Target Consultations	Consultations Completed
Surveys	Up to 245	158
Interviews	Up to 45	23
Virtual Focus Groups	3 with up to 10 participants each	3 with a total of 12 participants
Total	320	193

2.5 Data Analysis

The graphs presented in this report were generated from the raw survey data extracted from Survey Monkey. The majority of survey questions requested that respondents indicate on a five-point scale (namely, 'Strongly Disagree', 'Disagree', 'Neither Agree nor Disagree', 'Agree', and 'Strongly Agree'), the extent to which they agreed or disagreed with a statement, for example, the extent to which they agreed that the TVET governance structure ensures effective management, coordination and oversight. Data for these questions was qualified based on the percentage of positive responses per option (i.e. Agree and Strongly Agree) with the majority of the graphs contained in this report having been drafted based on the percentage of positive responses. The graph below provides an illustrative example of how these graphs are presented in the Report.

Figure 2-2: Illustrative Example 1



Where stakeholders were not requested to indicate the extent to which they agreed with a statement they were requested select a specific option or options from a list provided. For example, employers were asked to indicate which sub-sector they

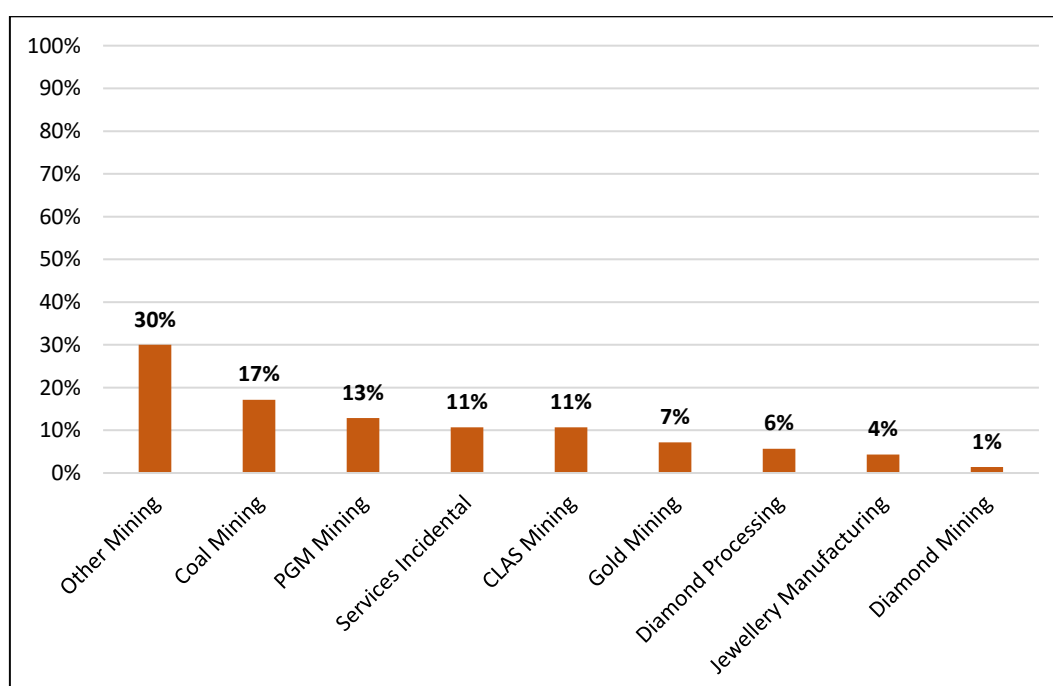
formed part of. The percentage of respondents that selected each option, over the total number of respondents were then presented in the form of a graph. Table 2-3 below shows an illustrative sample of the survey results.

Table 2-3: Illustrative Sample Survey Results

Sub-sector	Responses
Platinum Group Metals (PGM) Mining	13%
Diamond Processing	6%
Diamond Mining	1%
Cement, Lime, Aggregates and Sand (CLAS)	11%
Jewellery Manufacturing	4%
Gold Mining	17%
Services Incidental to Mining	11%
Coal Mining	17%
Other Mining	30%
Total	100%

The data would then be presented as indicated in the illustrative figure below.

Figure 2-3: Illustrative Example 2



2.5.1 Triangulation

To ensure robust research findings, the cross validation and triangulation of multiple data points was conducted. The below paragraphs provide further detail regarding the methods of triangulation adopted:

- **Data Triangulation:** this refers to the simultaneous use of data from various sources such as interviews, surveys, focus groups, and relevant literature. Cross-referencing information gathered from multiple sources ensured a comprehensive understanding of the research topic, enhancing the credibility and validity of the findings. For example, the current landscape in terms of TVET college curriculum development was established initially from an analysis of literature, and then validated against findings from surveys, interviews and focus groups; with interviews and focus groups further exploring and assessing areas for improvement in terms of the curriculum development process.
- **Methodological Triangulation:** this entailed the use of various research methods, including interviews, surveys, focus groups and a literature review to respond to the same research topic. This form of triangulation provided more comprehensive and reliable findings and was adopted to strengthen the research design.
- **Space Triangulation:** participants from different provinces were included in the Project which allowed for the examination of nuances relating to the topic at hand based on their specific regional contexts.

2.6 Ensuring Validity and Reliability

Ensuring the validity and reliability of research is crucial for maintaining the accuracy and credibility of the study. Validity refers to the extent to which the research method is accurate in measuring the intended variable, whereas reliability refers to the extent to which a research method consistently produces the same outcome if presented to the same stakeholders multiple times. Overall, both elements are essential for trustworthy and meaningful research (Surucu & Maslakci, 2020).

In order to ensure validity and reliability for this Study, the following steps were adopted:

- Clearly defining the research question and hypothesis to ensure that appropriate target respondents were selected;
- Appropriate data collection methods and instruments were selected, which included surveys, in-depth interviews, and focus groups, to ensure that both qualitative and quantitative data can be sourced from participants;
- Data was analysed using appropriate and robust statistical techniques, which include the use of Advanced Microsoft Excel for qualitative and quantitative analysis;
- Through the analysis, results were interpreted and reported accurately and transparently in the findings Report. Quantitative results were illustrated in the form of graphs, while qualitative results were incorporated as extracts into the report;
- The limitations of the research were addressed by adopting mitigating strategies when limitations were identified, where possible.

2.7 Ethical Considerations

As part of this Study, four key ethical considerations were employed, including quality of resources, standards, research policy and employee policies and practices. Further detail on these ethical considerations is provided below.

2.7.1 Quality of Resources

The research team was committed to delivering high-quality research and analysis. Recognising the importance of meeting or surpassing customer expectations, the researchers, equipped with diverse degrees and postgraduate qualifications in fields like engineering, business science, and economics, brought a range of quantitative and qualitative research skills to ensure comprehensive and rigorous analysis.

2.7.2 Standards

The team and its members consistently adhered to the Code of Conduct outlined by the Market Research Society (“MRS”). This comprehensive code encompassed all stages of research, from inception and design to execution and use, and was applicable to market, social, and opinion research. The principles of the MRS Code, diligently followed by the team, included commitments to honesty in professional

relationships, transparency in data collection purposes, respect for the rights and well-being of individuals, prevention of harm to respondents, a balance between individual needs and professional activities, independent professional judgment, ensuring appropriately trained personnel conducted activities, and safeguarding the reputation and integrity of the profession.

Furthermore, the MRS outlines regulations for the administering of incentives, which researchers and their team adhere to when offering incentives. These regulations include ensuring that incentives used to encourage participation are proportionate and not perceived as bribes. When offering incentives, participants were clearly informed about the administrator, the nature of the incentive, and any associated conditions. The team ensured that incentives did not require participants to spend money, except for permissible monetary vouchers. Additionally, client goods, services, or vouchers for client goods or services were not used as incentives or gifts for research projects. Participants were not promised gifts of client goods or branded materials. The team took measures to prevent the misuse of incentive administration for collecting personal details for unrelated purposes and maintained confidentiality when incentives were offered by an organisation's in-house research department.

2.7.3 Research Policy and Practices

Respondents were given the content, sponsorship, and the purpose of the research in order for them to make an informed judgment about whether they wished to participate. Any assurances, such as confidentiality or anonymity, were also kept. Additionally, the research team fully disclosed to the MQA the limitations and shortcomings of the research and avoided the use of methods that deliberately introduced bias into the results. Survey, interview and focus group questionnaires, including the exact wording and sequencing of questions used in the study, description of the population and how a sample was selected, sample sizes, and the method place and dates of data collection, were also submitted to the MQA.

Furthermore, the following practices were adopted to ensure anonymity, confidentiality and informed consent from participants:

- **Anonymity**

Respondents were assured that their personal information and linked responses would not be provided to the MQA.

- **Confidentiality**

Data collected from all survey tools was kept strictly confidential and no data or form of data was shared with any person not authorised to view it.

- **Informed Consent**

It was not possible with online survey tools to provide an oral explanation of the study, or to take oral consent. This meant that all of the relevant information had been given in the first 'page' of the survey or in the email containing the link to the survey. This followed the pattern of a paper-based information sheet and covered the identity of the researcher(s), contact details, the reason for conducting the survey, the uses to be made of the data and so on. Participants were given the option to provide consent to participate at the beginning of the survey, where the survey would end immediately for all persons who did not provide consent.

- **Right to Withdrawal**

Respondents were able to exit the survey at any point. However, the responses already submitted could not be withdrawn at the point of exit.

2.8 Research Limitations

Two major challenges were experienced during the data collection process. The table below lists these challenges, and the approach that was adopted to overcome said challenges.

Table 2-4: Data Collection Challenges and Responses

Data Collection Challenge	Response to Challenge
1 Several stakeholders declined to participate in the Study. This was for two main reasons: • Stakeholders had limited interactions with the TVET system as well as TVET graduates • Stakeholders indicated that they had participated in previous MQA studies	• To overcome this, Redflank replaced individuals who declined to participate in the interview sample, ensuring that proper sampling techniques were followed. • Furthermore, to encourage participation, Redflank ensured that stakeholders were informed that this Study was focused on a novel research topic.
2 Several stakeholders did not honour commitments to participate in interviews and focus groups, despite confirming their attendance either telephonically or via email.	• Redflank attempted to contact stakeholders several times in an attempt to reschedule interviews and focus groups. • For interviews, in instances whereby stakeholders were unresponsive, the stakeholder was replaced by another employer who formed part of the interview sample.

3 Theoretical Framework

The following section details the theoretical framework adopted for this Study. The key frameworks that were used to ground the study included the human capital theory, the triple helix model, and grounded theory.

3.1 Human Capital Theory

Human Capital Theory provides a framework for understanding the economic value of education and training, and is premised on the notion that knowledge, skills, and competencies are essential assets that contribute to individual and societal development (Gallagher, et al., 2024). Pioneered by Theodore Schultz in the 1960s and Gary Becker in the 1990s, Human Capital Theory is centred on the notion that investments in education and training can be likened to investments in physical capital, generating returns in the form of increased workplace productivity (Fleischhauer, 2007). Human Capital Theory therefore views education and training within a particular social system as being critical activities that enhance the productivity and earning potential of individuals (Gallagher, et al., 2024). More specifically, Human Capital Theory argues that the acquisition of skills and knowledge through education and training contributes not only to individual development but also to economic prosperity (Fleischhauer, 2007). According to Human Capital Theory, the accumulation of human capital takes place in three ways namely: formal schooling, on-the-job-training, and off-the-job training (Fleischhauer, 2007). Investments in these types of training involve initial costs to gain a return on investment in the future (Becker, 1992). The return to investment can either be in the form of increased earnings for the worker, higher productivity for the organisation that the worker is employed by, or increased employment prospects for the worker (Fleischhauer, 2007). Within the context of this Study, the Human Capital Theory was used as a framework to assess employers' perceptions as to whether the investments in education and training, in the form of funding to the TVET system, has resulted in sufficient return on investment amongst employees who have participated in programmes through the TVET system, or TVET graduates.

In the South African context, which is plagued by challenges such as high levels of unemployment³ and skills mismatches in the labour market, the TVET system is recognised as being a crucial mechanism through which said challenges can be addressed (Department of Higher Education and Training, 2013). The TVET system is envisioned to assist in addressing these challenges by equipping individuals with practical skills that are aligned with the needs of the economy (Hall, 2024). While the TVET system is aimed at equipping individuals with the relevant practical skills, it can be argued that employer perceptions as to whether these skills are adequate is one that, ultimately, determines the effectiveness of the TVET system in achieving its intended objectives. Employers within the South African economy therefore play a critical role in validating the effectiveness of the TVET system, given that they can be considered as the ‘end-users’ of the skilled workforce. In line with this, through the lens of Human Capital Theory, employer perceptions of the TVET system can be determined, particularly on how well the TVET system equips workers with the relevant skills that align with workplace requirements.

Furthermore, considering the importance that Human Capital Theory places on investments in education and training and its role in enhancing labour productivity⁴, this Study examined employer perceptions regarding the extent to which productivity has been enhanced for those workers who have participated in MMS related programmes at TVET colleges. This will allow for the assessment of whether these individuals are perceived as more productive after participating in said programmes. The use of Human Capital Theory as a key theoretical lens allowed for the assessment of employers’ perceptions regarding the impact of TVET related programmes and whether participation in these programmes has contributed to enhancing the efficiency of their workforce.

In summary, by using Human Capital Theory as a theoretical lens, this Study provides insights into how well the TVET system aligns with the needs and expectations of employers in the MMS. This information can inform changes to MQA’s funding priorities as it pertains to TVET colleges and may produce key insights on the TVET curriculum.

³ The official unemployment rate was 31.9% in the third quarter of 2023 (Statistics South Africa, 2023).

⁴ (Becker, 1992).

Considering the framework provided by the Human Capital Theory, the following hypothesis was formulated, which was tested and refined through the analysis of data gathered through fieldwork:

- The soft and technical skills that TVET graduates are equipped with through the TVET system do not significantly contribute to enhancing the productivity of MMS organisations.

3.2 Triple Helix Model

Within the context of this Study, the Triple Helix Model provided a framework to assess the strength of the relationship between academia, government, and industry. The Triple Helix Model is centred on the notion that, when operating synergistically, the interactions between these three institutional spheres are key contributors to innovation and economic development within a particular society (Supriadi, et al., 2024). The Triple Helix Model recognises the distinct strengths of each helix in promoting economic development, noting the role played by academia in contributing to knowledge creation, the role of industry in propelling economic development, and the role of government in terms of providing and supportive regulatory and policy framework (Supriadi, et al., 2024). Using the Triple Helix Model as a theoretical lens, this Study determined employer perceptions regarding the interactions and collaborations between key role players within the TVET eco-system. For example, it can be used to determine employer perceptions regarding the effectiveness of the role of the government (i.e., entities such as DHET, MQA) in providing support to the TVET system, or whether these entities collaborate sufficiently. This may involve determining whether employers view the support provided as being conducive to the development of a skilled workforce, and whether the collaborative efforts between government agencies (such as the MQA) and TVET colleges are effective in terms of ensuring that the education and training offered by TVET colleges aligns with industry needs.

In line with the above, and considering the framework provided by the Triple Helix Model in terms of assessing the strength of partnerships between government, industry and academia, the following hypotheses were formulated, which were, as explained above, tested and refined through the analysis of data collected through fieldwork:

- The partnerships between government (e.g the MQA), industry, and TVET colleges contribute to the relevance of the TVET system and promote the

development of a workforce that is equipped with relevant skills that align to the requirements of the MMS.

- There is currently not sufficient collaboration between government, industry, and TVET colleges.

3.3 Grounded Theory

Grounded Theory is a framework that enables the generation of theory that is 'grounded' in data that has been systematically collected and analysed (Noble & Mitchell, 2016). It is essentially focused on constructing theories from multiple data sources which have been systematically obtained and analysed using comparative analysis (Birks & Mills, 2015). Grounded Theory provides researchers with a set of tools that enable a structured approach to sorting through data that allows researchers to determine key theories or insights emerging from empirical research (Thornberg, et al., 2015). For this Study, Grounded Theory was used as a key framework to guide the data analysis process. Grounded Theory provided a structured approach which allowed for the determination of key theories relating to employers' perceptions of the TVET system within the MMS. The framework provided by Grounded Theory prescribes how the theory should be applied in practice. Application of the Grounded Theory framework in this Study involved the following processes:

- **Initial coding:** Grounded Theory encourages the process of initial coding, which is the first step in data analysis when conducting a study through the lens of the framework. Initial coding is a method used to identify important concepts in the data and label these concepts accordingly (i.e., codes) (Thornberg, et al., 2015). Initial coding is often followed by focused and theoretical coding, which involves refining the codes developed initially (Birks & Mills, 2015).
- **Concurrent data collection and analysis:** One of the key principles of Grounded Theory is collecting data with an initially purposive sample (Birks & Mills, 2015). The data from these initial consultations are coded before more data is collected.
- **Theoretical sampling:** conducting research through the lens of Grounded Theory lends itself to adopting theoretical sampling when selecting participants

for the study (Birks & Mills, 2015). This means that study participants are chosen based on theoretical considerations emerging during the research process. To sample theoretically, the researcher must make strategic decisions regarding the study participants, with due consideration given to those individuals that will provide the most insightful information (Thornberg, et al., 2015).

- **Constant comparative analysis:** a key part of applying Grounded Theory principles in a practical setting is comparative analysis of different data sources throughout the data collection process to continuously refine categories/themes (Birks & Mills, 2015).
- **Saturation:** Grounded Theory is concerned, at a fundamental level, with obtaining a level of data saturation. Saturation is reached when new data gathered through the research process fails to provide new insights (Noble & Mitchell, 2016).
- **Emergent theory:** the final product of Grounded Theory is an integrated and comprehensive theory that explains a particular phenomenon (Birks & Mills, 2015). This final process is concerned with building theories from the data collected as part of the research, using the techniques and practices listed above.

4 Literature Review

This section provides key insights from the desktop research undertaken as part the study. Consulting desk-based sources was a critical step in formulating a conceptual foundation for the Project.

The section demonstrates an understanding of the MMS in South Africa, including background context. The section further outlines the relevant policies and legislative frameworks that pertain to and regulate the TVET system in South Africa, provides background to the TVET system and unpacks the potential role that partnerships can play.

4.1 Overview of the MMS

The South African MMS is a key contributor to the South African economy. Currently, the mining sector contributes approximately R202.61 billion of the South African Gross Domestic Product (“GDP”) and provides direct employment to roughly half a million people (Mining Qualifications Authority, 2021). At its core, the mining process involves the extraction and transformation of precious metals and minerals, as well as other geological materials (Corporate Finance Institute, 2022). Mining Companies can be categorised into artisanal and small-scale mining (“ASM”) and large-scale mining (“LSM”). Artisanal mining involves individuals using rudimentary methods and tools to access mineral ore, usually for subsistence, while small scale mining is conducted by smaller producers sanctioned by authorities with limited capital (Debrah, et al., 2014). In contrast, LSM focuses on accessing large high-grade mineral deposits, which are typically economically feasible for large companies (Rodríguez-Novoa & Holley, 2023). The South African MMS encompasses a range of subsectors, each contributing to the extraction and processing of valuable resources. These subsectors are detailed further in the sections that follow. An overview of the mineral extraction and beneficiation value chains is also provided.

4.1.1 Subsector Breakdown

In South Africa, the MMS is categorised into 9 sub-sectors as outlined in the table below.

Table 4-1: MMS Sub-sector Breakdown

#	Sub-Sector	Description
1	Gold Mining	- The majority of the gold reserves are found within the Witwatersrand Basin – covering a 400km are between Gauteng, Free State and North West provinces (Goosen, 2021). - The sub-sector comprises of 85 organisations, the majority (45) of which are classified as small, employing 92 452 employees (Mining Qualifications Authority, 2022). - South Africa produces approximately 4.2% of the gold extracted globally today (Goosen, 2021). This is a significant decline from historical highs of approximately 40% produced by the country in 1975 (Africa Mining IQ, 2019).
2	Coal Mining	- Approximately 80% of the total coal production in South Africa is from the Mpumalanga province, according to the Council for Scientific and Industrial Research (“CSIR”) (2022). - There are 91 123 employees within the sub-sector, employed across 259 organisations (comprising a majority of small organisations) (Mining Qualifications Authority, 2022). - South Africa is ranked as the fifth highest exporter of coal globally, producing approximately 5.4% of global exports (Roussanoglou, 2022).
3	PGM Mining	Includes the mining of commodities such as platinum, palladium, rhodium, ruthenium, iridium and osmium (Mining Qualifications Authority, 2021).

#	Sub-Sector	Description
		- There are 21 employers, including 14 large employers, and 177 780 employees within the sub-sector (Mining Qualifications Authority, 2022). - South Africa contributes 87% of the global reserves in these commodities (Mining Qualifications Authority, 2021).
4	Diamond Mining	- The discovery of diamonds was first made on the south banks of the orange river in Kimberly (Shigley, 2017). Today, diamond deposits are mostly located in the Northern Cape, Free State and Limpopo provinces (Mining Qualifications Authority, 2021). - There are 20 employers, mostly classified as small, and 13 489 employees within the sub-sector (Mining Qualifications Authority, 2022). - South Africa accounts for 9% of the global diamond production (Global Data, 2023).
5	CLAS Mining	- The bulk of the cement production sites are in the north-western provinces of North-West Province and Gauteng. KwaZulu Natal also has a relatively high number of cement plants (Edwards, 2014). - Limestone is mostly mined in the Marble Delta in KwaZulu-Natal, which is considered to house the highest quality of the mineral in South Africa. Reserves of this rich deposit are estimated to be 300 million tonnes (Rossmin, 2023). - Aggregates comprise inert granular materials such as sand, gravel, or crushed stone. These aggregates form crucial components of concrete mix when mixed with water and Portland cement. The two types of aggregates include fine aggregates such as sand, crushed stone, or crushed slag, as well as coarse aggregates, which include gravel,

#	Sub-Sector	Description
		pebbles, fragments of broken stone, slag, and other coarse substances (B2B Central, 2021). - CLAS mining comprises 12 275 employees, in 132 companies, 90 of which are classified as small (Mining Qualifications Authority, 2022). - The aggregates sector in South Africa produces 130 million tonnes, equivalent to 2.5 tonnes per capita, driven by a continued demand for infrastructure, such as housing, road, rail, electricity and water infrastructure, where the aggregates are key components (O'Brien, 2020).
6	Other Mining	- This encompasses the extraction and processing of minerals including uranium, iron ore, chrome, manganese, copper, phosphates, and salt (Mining Qualifications Authority, 2021). - The deposits of iron ore and manganese are concentrated in the Kalahari Basin, within the Northern Cape region (South32, 2023). - There are 1 202 employers within the sub-sector, with the majority classified as large (947). The sub-sector employs 78 494 people (Mining Qualifications Authority, 2022). - South Africa is ranked 13th globally in terms of its iron ore reserves, 6th for production and 5th for exports. With regard to manganese, the country is at the top spot worldwide for reserves and ranks 2nd both in production and exports (Minerals Council, 2021).
7	Services Incidental to Mining	Comprises companies that offer services closely associated with the MMS, including research and development in mining and mineral extraction, training, catering, payroll management, machinery and equipment manufacturing, distribution, hiring and maintenance,

#	Sub-Sector	Description
		consulting, shaft sinking, as well as transportation and logistics (Mining Qualifications Authority, 2021). The sub-sector employs 32 266 people in 649 organisations, with 566 of these classified as small (Mining Qualifications Authority, 2022).
8	Diamond Processing	- This sub-sector is responsible for the processing of rough diamonds into cut and polished gemstones (South African Qualifications Authority, n.d.). - In South Africa, the subsector consists of 221 licensed diamond manufacturers. This includes the Master Diamond Cutters' Association which encompasses 80 registered members and employs the majority (approximately 95%), of the subsector's workforce (Mining Qualifications Authority, 2022). - The sub-sector employs 1 408 employees (Mining Qualifications Authority, 2022). - To promote local beneficiation, South Africa established the State Diamond Trader in February 2008, with the mandate to purchase 10% of the country's rough diamond production for sale to local beneficiaries (Mining Qualifications Authority, 2021).
9	Jewellery Manufacturing	- Within this subsector, companies engage in the beneficiation of mining outputs such as precious metals (gold, platinum, and silver) and diamonds, utilising them in the production of jewellery for both domestic and export markets (Mining Qualifications Authority, 2021). - Jewellery manufacturing includes the setting (fixing) of processed diamonds onto a shaped piece of metal such as gold, in order to produce a finished piece of jewellery (JD Institute of Fashion Technology, 2022).

#	Sub-Sector	Description
		- Of the 175 employers within the sub-sector, 165 are classified as small, despite South Africa's wealth of resources. The sub-sector employs 2 317 employees (Mining Qualifications Authority, 2022). - Geographically, jewellery manufacturers are primarily located in Gauteng, the Western Cape, and KwaZulu-Natal. It is common for jewellery manufacturing to be combined with the wholesale or retail sales of jewellery products, which may explain why many jewellery manufacturers are registered with the Wholesale and Retail SETA ("W&R SETA") (Mining Qualifications Authority, 2021).

4.1.2 The MMS Value Chains

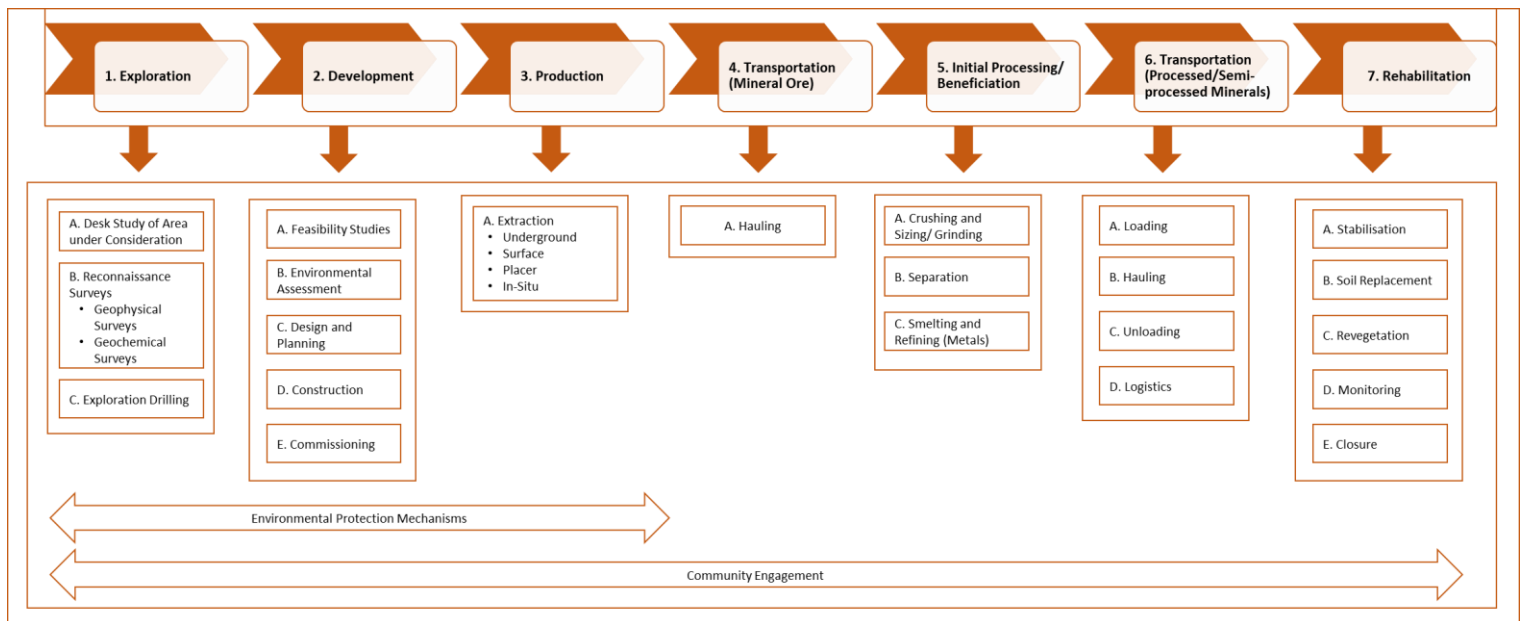
A value chain refers to the various business activities and processes that a particular organisation undertakes to develop a product or provide a service to the market (Harvard Business School, 2020). A value chain includes all the steps taken – from the initial creation of the product and/or service and the delivery of said product and/or service to the market. This may involve a wide range of activities related to research and development, product design, procurement of raw materials, production, marketing, distribution, and customer service (University of Cambridge, 2011).

Within the context of the MMS, the value chain for the sector can be divided into two categories, namely mineral extraction, and beneficiation. The MMS value chain has been divided in this manner due to the differing nature of the activities conducted in each respective value chain, including activities relating to the extracting and processing of minerals and metals, from exploration to production and the distribution of manufactured jewellery (McKinsey & Company, 2020). While some activities are associated with extracting and processing minerals, such as coal and PGMs, for market use, (i.e., the mineral extraction value chain) other activities are concerned with how additional value may be added to precious metals, such as gold, and used to produce jewellery for the market (i.e., the beneficiation and manufacturing value chain). Both value chains are discussed further below.

4.1.2.1 Mineral Extraction Value Chain

The process of mineral extraction involves various interconnected components that culminate in the supply of a specific mineral or metal to the market (McKinsey & Company, 2020). This sequence of components, known as the mineral extraction value chain, comprises several key sub-components including exploration, development, production, transportation of ore deposits, initial processing, beneficiation, transportation of semi-processed ore, and rehabilitation. This value chain is applicable to several MMS sub-sectors including gold, coal, diamond, PGM, CLAS and other mining. The mineral extraction value chain is depicted graphically in **Figure 4-1**.

Figure 4-1: Mineral Extraction Value Chain



Sources: Mining Qualifications Authority (2021); DMRE (2017); McKinsey & Company (2020); DMRE (2011); Glasgow (2013)

A brief overview of the sub-components of the above mineral extraction value chain are discussed in the table that follows:

Table 4-2: Mineral Extraction Value Chain Description

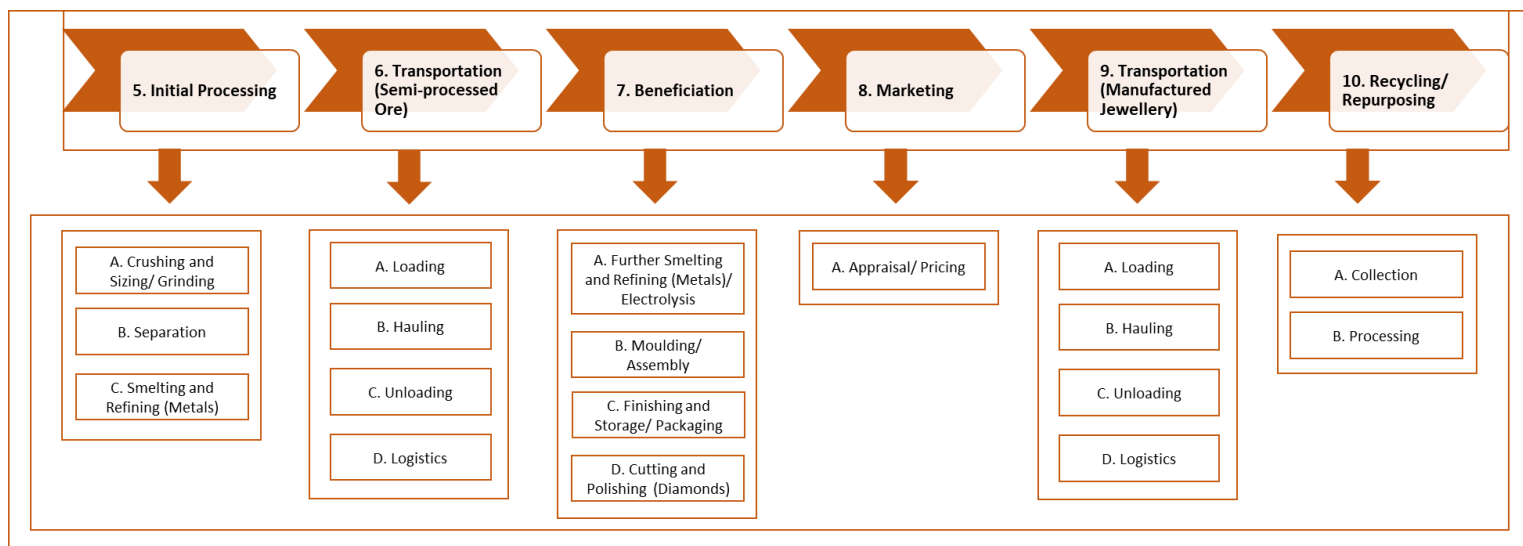
#	Value Chain Component	Description
1	Exploration	Exploration involves processes that are followed to determine whether minerals exist in a particular area, including a desk study, reconnaissance surveys and exploration drilling.
2	Development	Development commences once it is determined, through the exploration phase, that a specific piece of land contains mineral resources and involves conducting technical studies to determine the viability of the mining land, designing, constructing and commissioning the mine.
3	Production	Production involves the extraction of mineral resources.
4	Transportation (Mineral Ores)	Transportation is the movement of mined ore deposits from the mining site to a specific destination such as processing facilities, storage areas, or shipping ports.
5	Initial Processing/Beneficiation	After the ore deposits have been transported to the processing plant, the deposits can undergo initial processing. The initial processing to be undertaken differs according to the type of minerals being processed. For most ore deposits the first step involves crushing and grinding the ore to reduce the size of the deposits. After the initial processing is conducted, where applicable, the ores will be subject to further processing techniques, aimed at adding value to the mineral.
6	Transportation (Processed/Semi-Processed Minerals)	Transportation of the processed/semi-processed minerals is the movement of mined ore deposits from the mining site to a specific destination such as processing facilities, storage areas, or shipping ports.

#	Value Chain Component	Description
7	Rehabilitation	Rehabilitation is primarily focused on restoring the land and ecosystem that were impacted by the activities undertaken during the mining process.
8	Environmental Protection	Environmental protection in mining is the practice of ensuring that mining operations and associated activities do not cause undue harm to the environment and the health and well-being of people and other living beings in surrounding areas.
9	Community Engagement	Community engagement ensures that adequate engagement occurs between the mining organisation and key stakeholders in the surrounding community

4.1.2.2 Beneficiation and Manufacturing Value Chain

The beneficiation and manufacturing value chain involves various interconnected components that culminate in the delivery of manufactured jewellery to the market, including diamonds. The components of this value chain are a continuation of sub-components 5 and 6 of the mineral extraction value chain, which typically involves the initial processing of minerals and the transportation of semi-processed ore. The value chain is applicable to MMS sub-sectors such as diamond processing and jewellery manufacturing, as well as the services inherent to these sub-sectors. The activities conducted within this value chain are external to mining operations. The beneficiation value chain is illustrated in **Figure 4-2**.

Figure 4-2: Beneficiation Value Chain



Sources: Mining Qualifications Authority (2021); DMRE (2017); McKingsey & Company (2020); Glasgow (2013); Siddiqui (2016)

The first two phases of the above value chain, initial processing, and transportation of mineral ore, overlap with the mineral extraction value chain which has been outlined in Section 3.2.1. The remaining phases of the value chain are outlined below.

Table 4-3: Beneficiation Value Chain Description

#	Value Chain Component	Description
1	Initial Processing	After the ore deposits have been transported to the processing plant, the deposits can undergo initial processing. The initial processing to be undertaken differs according to the type of minerals being processed, however the process will typically include crushing and grinding, separation and smelting and refining.
2	Transportation (Processed/Semi-Processed Minerals)	Transportation of the processed/semi-processed minerals is the movement of mined ore deposits from the mining site to a specific destination such as processing facilities, storage areas, or shipping ports.

#	Value Chain Component	Description
3	Beneficiation	After the initial processing conducted the semi-processed gold and diamond bearing ores will be subject to further processing techniques, aimed at adding value to the mineral.
4	Marketing	Jewellery marketing is the process of promoting and selling jewellery products and services to potential customers.
5	Transportation (Manufactured Jewellery)	The transportation of manufactured jewellery involves activities such as loading the materials onto cargo carriers and transporting materials to their intended destinations.
6	Recycling and Repurposing	Recycling and repurposing involves recycling the raw materials utilised during the jewellery manufacturing process, such as the precious metals such as gold, diamonds, and gemstones, which do not wear out

4.1.3 Skills Development in the MMS

The current skills development landscape within the MMS is dynamic and continuously evolving, which is primarily due to the advent of the Fourth Industrial Revolution (“4IR”). As a result of the 4IR and its associated benefits, organisations within the MMS are introducing more sophisticated technologies, such as automation and artificial intelligence, into their operations, necessitating a corresponding evolution in the skills required within the MMS labour force. Historically, the South African mining sector has been considered a labour-intensive sector with mining methods dominated by demanding manual drilling methods, and operations including blasting and cleaning, on a stop-start basis (Wadula, 2022).

However, in the current context, research conducted by Mining Equipment Manufacturers of South Africa (“MEMSA”) suggests that successful implementation of 4IR technologies will require a workforce well equipped with technical and soft skills,

including skills related to change management and creative thinking around new business models (Ramdass, 2022). From the perspective of qualifications, research suggests that workers within the MMS may require more process-independent qualifications (i.e. qualifications not limited to specific jobs or sectors, for example, a project management certification, which is often considered process-independent as it provides skills and knowledge that can be valuable and applied across mining operations and occupations) to execute their responsibilities in a modernised mine (Stanz, et al., 2021). Organisations within the sector must therefore consider how to equip their workers with the required skills to work within a modernised mining environment.

It is at this juncture that the importance of TVET colleges comes to the fore, given that one of the key mechanisms through which organisations within the MMS can develop the skills of their workers is through the TVET system. The TVET system therefore has the potential to play a crucial role in equipping the MMS workforce with relevant skills that align to MMS requirements by offering specialised training programmes and fostering a practical, industry-relevant learning environment.

4.2 Relevant Policy and Legislative Frameworks

This section presents an overview of the relevant legislations and national plans and policies that pertain to and regulate the South African TVET system.

Table 4-4: Policy and Legislative Frameworks

#	Policy/Legislation	Description
1	Continuing Education and Training (“CET”) Act (CET Act, 2016)	- Originally enacted in 2006, the aim of the CET Act is to promote the expansion and improvement of the provision of continuing education and training in South Africa and aims to contribute to the development of a skilled and capable workforce by providing accessible and high-quality vocational education and training opportunities (CET Act, 2016). - The CET Act is a crucial piece of legislation in the context of the TVET system as it provides a legal

#	Policy/Legislation	Description
		framework for the establishment, funding, and operation of CET colleges (of which TVET colleges form a critical part), which are responsible for delivering vocational and occupational education and training (CET Act, 2016). • The CET outlines the process of the registration and accreditation of these colleges to ensure quality standards. The CET Act also outlines the intended mandate of CET colleges, which is to provide programmes that meet the needs of learners, industry, and the labour market (CET Act, 2016).
2	White Paper for Post School Education and Training (“WP-PSET”) (Department of Higher Education and Training, 2013)	• The WP-PSET is a policy that outlines DHET’s strategies and plans to improve the capacity of the PSET system. In line with this, the WP-PSET sets out a vision for (Department of Higher Education and Training, 2013): ○ A PSET system that can assist in building a fair, equitable, non-racial, non-sexist and democratic South Africa; ○ A single, coordinated PSET system; ○ Expanded access to and improved quality of post school education and training, and increased diversity of provision of post school education and training; ○ A stronger and more cooperative relationship between education and training institutions and the workplace; and ○ A PSET system that is responsive to the needs of individual citizens and of employees in both the

#	Policy/Legislation	Description
		public and private sectors, as well as broader societal and developmental objectives. • To achieve this vision, the WP-PSET clearly outlines DHET's intention to strengthen and expand the public TVET system and turn the colleges that form the core of the system into attractive institutions of learning for school leavers and workers (Department of Higher Education and Training, 2013). Key objectives of DHET in strengthening the TVET system include: ○ Improving TVET colleges' management and governance, mainly through capacity building programmes for senior managers at college level to assist them to effectively perform their duties as well as ensuring that a qualified chartered accountant be appointed as Chief Financial Officer in each TVET college; ○ Improving and developing the quality of learning and teaching by establishing regulations for minimum qualifications for vocational educators in colleges, by establishing a statutory professional body for TVET college lecturers (currently TVET lecturers have to be members of the South African Council of Educators ("SACE"), who are more focused on supporting school teachers) and providing assistance to universities to expand their capacity to train TVET lecturers; ○ Increasing TVET colleges' responsiveness to local labour markets by setting benchmarks for assessing the quality of education and training in TVET colleges, and continuously monitoring and

#	Policy/Legislation	Description
		evaluating the standard of education and training offered in TVET colleges; ○ Improving student support services by providing ring fenced funding for student support activities, such as career counselling and guidance; and ○ Developing TVET college infrastructure through the provision of funding. ● The WP-PSET further outlines DHET's intentions to facilitate the strengthening of partnerships between employers and TVETs "both at the system level and that of individual colleges" (Department of Higher Education and Training, 2013). DHET views these partnerships as being key in terms of assisting TVET colleges to locate opportunities for work-integrated learning, to place students upon the completion of their studies and to ensure regular workplace exposure for lecturers and other staff to keep these individuals abreast with the latest developments within various industries (Department of Higher Education and Training, 2013). The WP-PSET also recognises the importance of these partnerships as it pertains to curriculum development, with the policy noting that "employers should be in a position to advise the college system and individual colleges around issues of curriculum" (Department of Higher Education and Training, 2013). ● The WP-PSET also recognises the importance of SETAs in promoting and facilitating partnerships between colleges and employers to ensure that TVET colleges are offering programmes that align to industry

#	Policy/Legislation	Description
		needs (Department of Higher Education and Training, 2013).
3	National Skills Development Plan (“NSDP”) (Department of Higher Education and Training, 2019)	• The NSDP, developed to replace the third National Skills Development Strategy (“NSDS III”) to align national skills development with the National Development Plan (“NDP”), is aimed at ensuring that South Africa has adequate, appropriate, and high-quality skills that contribute towards economic growth, employment creation and social development. The NSDP was created by the government to address South Africa’s skills development needs over the next ten years. • The policy is based on the recognition that skills development is critical to addressing high levels of unemployment and poverty, and to promoting economic growth and competitiveness (Department of Higher Education and Training, 2019). The NSDP derives from the broader government plan (i.e., NDP) to build the capabilities of its citizens to improve the future of the country. • The NSDP recognises the role of the TVET system in achieving its intended purpose (s), which is articulated in the plans outcomes. Outcome 5, which pertains to the plans intention to support the growth of public colleges, as well as sub outcome 5.1, which explicitly states the plans intention to support TVET colleges, underlines the importance of TVETs to the NSDP (Department of Higher Education and Training, 2019).

#	Policy/Legislation	Description
		Key Performance Indicators related to TVET colleges articulated in the NSDP include the government's intention to provide support for 'Centres of Specialisation⁵', within TVET colleges in order to implement occupationally driven programmes and increase the number of TVET lecturers receiving workplace exposure (Department of Higher Education and Training, 2019).
4	Human Resource Development ("HRD") Strategy (Human Resource Development Council of South Africa, 2022)	- The HRD strategy was first developed in 2001 as comprehensive strategy that addresses the development of South Africa's human capital and sustainable economic growth. The NSDP, SETAs, and the National Qualification Frameworks ("NQF") are some of the mechanisms used to implement the HRD Strategy and encourage the formation of an educated workforce that will contribute to the economic development and growth of the country (Human Resource Development Council of South Africa, 2022). - In line with the above, one of the strategy's key programmes is focused on TVET's and the college system. The five strategic objectives of this programme, all aimed at expanding access to TVET colleges and improving TVET throughput rates by (Human Resource Development Council of South Africa, 2022):

⁵ The Centres of Specialisation Programme is a DHET initiative designed to meet two objectives, namely, to: address the demand for priority trades needed for the implementation of the NDP and to contribute towards the building of the capacity of the TVET college system to deliver trade qualifications with employers within specific sectors (Department of Higher Education And Training, 2016). This programme aims to achieve its objectives through the development and establishment of thirteen departments within TVET colleges (i.e., Centres of Specialisation) dedicated to training for specific trades (Department of Higher Education And Training, 2016).

#	Policy/Legislation	Description
		○ Improving the supply of Further Education and Training (“FET”) and intermediate level occupations that are in high demand; ○ Building strong linkages and relationships with employers in the delivery of priority programmes; ○ Ensuring that young unemployed people participate in TVET programmes that assist them to enter the labour market; ○ Improving the quality of teaching and learning within TVET colleges; and ○ Providing support services and career development advice to learners.
5	Economic Reconstruction and Recovery Plan (“ERRP”) Skills Strategy (Mvalo, 2021)	• The ERRP skills strategy is aimed at ensuring that implementation of the ERRP (i.e., South African governments’ plan to revitalise the economy after the COVID-19 pandemic) is supported by the relevant, readily available skills. The ERRP skills strategy recognises that the implementation of key components of the ERRP will fail if the relevant skills are not available. The ERRP skills strategy outlines several interventions which are of relevance to TVET colleges, such as (Mvalo, 2021): ○ Expanding the provisioning of short skills programmes, which involves incentivising educational institutions (including TVETs) to fast track the provision of short skills programmes; ○ Expanding the provisioning of workplace-based learning programmes, which will require government to assist Centres of Specialisation within TVET

#	Policy/Legislation	Description
		colleges in terms of building their resources and improving their processes and systems; ○ Increasing enrolments in qualification-based programmes that respond to occupational shortages, which will entail enrolment planning whereby TVET colleges and other institutions will be incentivised to increase intake for specific qualifications that are relevant to the implementation of the ERRP, as well as the development on new qualifications aimed at addressing skills shortages; and ○ Strengthening entrepreneurship development programmes, which will involve the establishment of TVET college entrepreneurship hubs, as well as the funding of technology stations at TVET colleges

4.3 Background to the TVET System

The TVET sector is an integral part of the South African education system, providing a unique approach to learning, aimed at promoting skills development and providing individuals with the information and practical skills needed for specific trades and professions, such as those found in the Mining and Minerals Sector (Government of South Africa, 2023). Addressing the unique needs of the nation's mining industry requires the integration of the TVET sector with the MQA and the larger Mining and Minerals Sector. This integration should assist TVET programs meet industry requirements, support sustainable growth, and generate a labour force with the competencies required for the intricate and ever-changing mining industry.

4.3.1 Historic Overview

A key aspect when looking at the TVET system is understanding the history and context of TVET colleges in South Africa. TVET colleges in South Africa have undergone a radical transformation, moving from a system based on segregation to an

inclusive approach that places an emphasis on economic expansion and skill development (TVET Colleges, 2024).

4.3.1.1 Pre-1994

The origin of TVET institutions, formerly known as technical colleges, may be traced back to the 1800s, with the industrial development in this period creating an enhanced need for technical education (Government of South Africa, 2023). Since their inception, South Africa's colonial past has greatly influenced technical and occupational training. The 1970s and 1980s were a crucial era for TVET colleges with the government consolidating multiple TVET colleges to improve quality and accelerate curriculum development (TVET Colleges, 2024). During the 1970s and 1980s the education system, including technical colleges, was greatly affected by apartheid policies, resulting in inequalities and disparities in access to education.

4.3.1.2 Post-1994

The TVET college sector known today was established in the late 1990s, with the aim of providing a variety of occupational and vocational programs with a strong emphasis on practical training that would equip students to either enter the workforce or further their studies (TVET College Portal, 2023). Since South Africa's democratic transition in 1994, the country's TVET sector has undergone several transformative policies and reforms, such as the approach of privatisation, aimed at modernising and transforming the sector so that it better aligns with the country's developmental aims (Needham, 2019). The integration of racially divided technical institutions into one cohesive system resulted in profound changes aimed at addressing inequalities and creating equal access to technical education for students throughout this period (TVET Colleges, 2024).

The end of apartheid led the way for the government to revise the curriculum to reflect current industry needs (TVET Colleges, 2024). To ensure that graduates acquired skills that were directly relevant to the workforce, partnerships were formed between TVET colleges, businesses and industries. Consequently, the implementation of political and economic changes in South Africa resulted in various privatisation strategies in public education and training systems, that impacts TVET provision (Needham, 2019). The establishment of the current 50 TVET colleges in South Africa

were part of the government's broader efforts to transform and expand the education system post-apartheid.

4.3.2 Current TVET System

TVETs are strategically positioned in the broader public education system, to provide skills and industry-relevant training, contributing to the development of a skilled and adaptable workforce. TVET colleges are well known for offering technically advanced programmes that address the socioeconomic issues in the country (Sebola, 2022). The TVET system further contributes to the national development goals, fostering employability, supporting diverse pathways (TVET College Portal, 2023).

4.3.2.1 Purpose of the TVET System

The primary purpose of TVET colleges is to go beyond theoretical education programmes and equip students with real-world experience and practical skills that should allow them to enter the labour market and contribute productively. TVET colleges offer vocational and technical education and training programmes. Workshops, laboratories, and industry placements provide hands-on experience to students and the practical skills required in their chosen area of study (Ehlanzeni TVET College, 2023).

TVET colleges are designed to provide students with Grade 9 or Grade 12 certificates an opportunity to gain technical and vocational education and training qualifications. The qualifications and programmes offered by TVET colleges fall into three different programme categories (ETDP SETA, 2021):

- The National Certificate (Vocational) ("NC(V)") offered at NQF Levels 2,3 and 4. The NC (V) qualification has 19 vocational programmes that are offered at TVET colleges.
- The National Accredited Technical Education Diploma ("NATED") programmes, which are offered at levels N1 -N6 for Engineering Studies and N4 – N6 for Business and General Studies.
- The Pre-Vocational Learning Programme ("PLP"), which is a foundational programme aimed at preparing students for access to a specific vocational or occupational learning pathway at TVET colleges.

The types of skills training offered by TVETs are dependent on the specific requirements of different industries (TVET Colleges, 2024). TVET colleges provide specialised education and training to individuals seeking to enter the MMS industry. As the industry's governing body, the MQA recognises TVETs as essential for producing knowledgeable and proficient workers who can support the efficient and long-term expansion of the mining industry (Mining Qualifications Authority, 2023).

TVET colleges provide a number of advantages including being less time consuming than regular academic programmes, due to the nature of programmes offered at TVETs, with the majority of said programmes offering students intensive and focused training, allowing students to graduate faster. Additionally, the tuition costs are typically lower and are more cost-effective, making it more accessible (Ehlanzeni TVET College, 2023). However, some of the disadvantages of TVET colleges include TVET colleges offering a limited range of programmes compared to universities, meaning they may be less suitable for students interested in pursuing an academic or specialised field (Sathekge, 2023). Furthermore, some people perceive TVET colleges as less prestigious compared to universities (Sathekge, 2023).

4.3.2.2 Key Stakeholders in the TVET Ecosystem

The table below provides an overview of the key stakeholders within the TVET ecosystem - including stakeholders that play a key role in ensuring that TVET colleges meet their mandate to provide education and training interventions that respond to national and economic priorities.

Table 4-5: Key Stakeholders in the TVET Ecosystem

#	Stakeholder	Description
1	DHET	DHET is a government department that is responsible for higher education and training in South Africa. DHET's mission is to develop a capable, well-educated, and skilled citizenry who are able to compete in a sustainable and diversified international economy. DHET aims to achieve its mission by (Department of Higher Education and Training, 2024):

#	Stakeholder	Description
		○ Reducing skills bottlenecks, particularly in priority skills areas; ○ Improving participation rates in the PSET system; ○ Correcting distributions in the shape, size and distribution of access to PSET education and training; and ○ Improving the quality and efficiency of the PSET system, its subsystems, and institutions. ● DHET, through its TVET branch, is responsible for the oversight and support of TVET colleges (Department of Higher Education and Training, 2024). The core function of the TVET branch is to develop, maintain, monitor, and evaluate national policy, programmes, assessment practices and systems that underpin vocational education and training in South Africa (Department of Higher Education and Training, 2024).
2	Umalusi	● Umalusi is the council for quality assurance in General and Further Education and Training (Umalusi, 2019). Umalusi sets and monitors standards for general and further education and training in South Africa in accordance with the NQF and the General and Further Education and Training Quality Assurance Act (Umalusi, 2019). ● Umalusi is currently responsible for the certification of the following TVET qualifications (Umalusi, 2019): ○ National Technical Certificate (N3) ○ National Certificate Vocational (NCV)
3	Quality Council of Trades and	● The QCTO provides guidance to skills development providers (private and public) and assessment centres. These organisations need to be accredited by the QCTO in order to

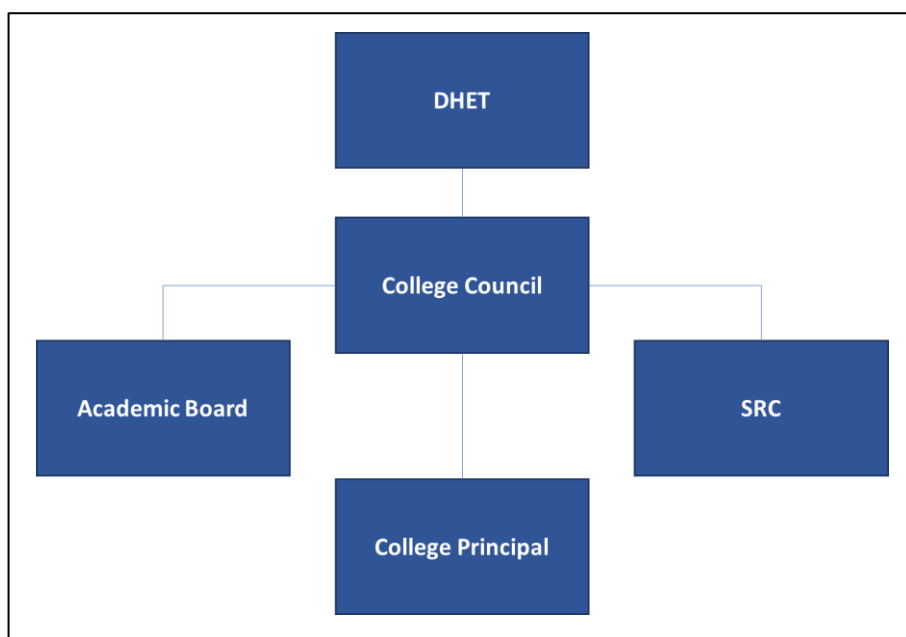
#	Stakeholder	Description
	Occupations ("QCTO")	administer occupational qualifications (Quality Council of Trades and Occupations , 2024). The QCTO contributes to the TVET sector by strengthening and expanding the TVET college system and takes responsibility for conversion and quality control of TVET colleges' NATED 191 Part 2 qualifications (Quality Council for Trades and Occupations , 2019).
4	Council on Higher Education ("CHE")	- The Higher Education Act of 1997 established the Council on Higher Education ("CHE"), an independent statutory organisation (Council on Higher Education, 2023). The Council was given two primary areas of responsibility, one of which was the establishment and management of an external quality assurance system for higher education to be administered by its permanent committee, the HEQC (Council on Higher Education, 2023). - The CHE advises the Minister of Higher Education and Training on higher education policy issues and ensures the quality of higher education in South Africa through the HEQC (UNESCO-UNEVOC, 2014).
5	South African College Principals Organisation ("SACPO")	The role of SACPO is to represent, promote and protect the interests of all public colleges. SACPO represents all 50 TVET colleges, comprising a National General Council (South African College Principals Organisation , 2024). SACPO plays a significant strategic role in supporting its members fulfil their developmental responsibilities and in representing TVET interests throughout the Higher Education system (South African College Principals Organisation , 2024).
6	SETAs	SETAs facilitate training and education that aligns with the needs of specific industries. For example, the MQA is

#	Stakeholder	Description
		responsible for facilitating training and education within the MMS. SETAs play a critical role in ensuring that the training offered within their respective sector (s) align to those sector (s) skills needs. • SETAs and TVET colleges often collaborate to identify specific skills gaps within specific industries. SETAs also play a critical role in terms of providing input into the development of TVET curricula, facilitating partnerships between employers and TVET colleges, and the allocation of funding for skills development interventions.
7	National Skills Fund (“NSF”)	• The National Skills Fund is an entity that disburses grants in the form of funding to the PSET sector in South Africa (National Skills Fund, 2022). • The NSF is primarily funded by the skills development levy. Of the entire pool of levies received from organisations across various sectors, 20% of these levies are allocated towards the NSF, with the remaining 80% allocated to SETAs. Other funding sources for the NSF include interest on investments held at the Public Investment Corporation (“PIC”) (National Skills Fund, 2022). • The NSF uses these levies to fund training programmes, institutional capacity building, and research in the PSET sector (National Skills Fund, 2022).
8	South African Council for Educators (“SACE”)	• The purpose of SACE, the professional council for educators, is to improve the standing of the teaching profession by facilitating proper registration, overseeing professional development, and establishing a code of ethics for all educators (South African Council for Educators, 2024).

#	Stakeholder	Description
		Individuals attending further education and training institutions, for example TVET colleges, are eligible to provisionally register with SACE as educators (Mokgalane, 2022). SACE's role is to maintain and protect ethical and professional standards for educators.

4.3.3 TVET Governance

In South Africa, TVET colleges are accredited by a number of governing bodies. These bodies include the CHE, QCTO, and the DHET (Caps 123, 2023). In 2015, the 50 public TVET colleges in South Africa transitioned to the DHET from the Provincial Education Department. Consequently, TVET colleges are under the jurisdiction of the DHET, and each province has a regional office that offers the TVET colleges specialised professional support. TVET colleges are directed by the government in multiple ways, all of which are coordinated through the DHET. The primary obligation of the government towards TVET colleges is to establish policy, regulations, laws, and standards. The development of a national curriculum, employee training, funding, updating, and implementing policies are among the other duties of the government (UNESCO-UNEVOC, 2021). TVET colleges have a tripartite governance structure consisting of a college council, an academic board or management council, and a student representative council ("SRC") (UNESCO-UNEVOC, 2021). The figure below provides an overview of the typical governance structure of TVETs.

Figure 4-3: TVET Governance Structure

The table below provides a description of each of the elements that make up a TVET's governance structure. As per the CET act, every TVET college must establish a council, an academic board, and a student representative council (CET Act, 2016). The act further stipulates that each of these structures must elect a chairperson, vice-chairperson, and other office bearers from its constituency. While these are the governance structures that every TVET college must establish, the CET act states that every TVET college "may establish other structures as may be determined in the college statute" (CET Act, 2016).

Table 4-6: TVET Governance Structure Description

#	Governance Structure Element	Description
1	DHET	The core function of DHET's TVET branch is to develop, maintain, monitor, and evaluate national policy, programmes, assessment practices and systems that underpin vocational education and training in South Africa (Department of Higher Education and Training, 2024).

#	Governance Structure Element	Description
2	College Council	- The college council of a particular TVET must develop a college statute that governs the college (CET Act, 2016). Furthermore, the college council is responsible for developing a strategic plan for the TVET college which incorporates the mission, vision, goals, and planning for funding for approval by the minister. The college council is also responsible for determining the language policy, ensuring that the college complies with the accreditation requirements necessary to provide learning programmes and the appointment of an auditor to audit records and financial statements (Ehlanzeni TVET College, 2023). - A college council must contain five council members appointed by the minister. Ministerial appointees are external, i.e., these individuals are not employed by the minister and are not students or support staff at the specific TVET college (Department of Higher Education and Training, 2023). In addition to the above, the college council also consists of the TVET college principal, one member of the academic board (elected by the academic board), one external member (representing donors to the college), one lecturer within the college (elected by lecturers of the college), one member of the support staff (elected by the support staff within the college), as well as two students (elected by the SRC) (Tshwane South College, 2024). Furthermore four additional council members with expertise in financial, human resources and legal skills must be appointed.

#	Governance Structure Element	Description
		The college council reports to the minister on the overall management and governance of the college, the overall performance of students, and on its duly audited annual financial statements (Ehlanzeni TVET College, 2023).
3	Academic Board	- The academic board must consist of the college principal, vice principal (s), lecturers, members of the college council, members of the SRC, as well as any other additional individuals deemed to be competent by the college council. The majority of the academic board must consist of lecturers (CET Act, 2016). - The academic board is accountable to the college council for all the teaching, learning, research, and academic functions of the college, establishing internal academic monitoring and quality promotion mechanisms, and all of the academic functions of the college (CET Act, 2016).
4	Student Representative Council ("SRC")	The SRC is representative of student interests and liaises with management on behalf of the student body. The SRC can only be composed of registered students and must be representative of the student body (CET Act, 2016).
5	College Principal	The college principal is responsible for the day-to-day management and administration of the TVET. By virtue of the role, the principal is a member of all of the committees of the college council (CET Act, 2016).

4.3.4 TVET Curriculum Development

The term "curriculum" in the TVET context refers to an organised combination of theoretical, practical, and workplace learning components (Terblanche and Bitzer,

2018). Its goal is to provide students with industry-relevant knowledge and skills that improve their employability. Thus, a well-designed TVET program equips students with low-, intermediate-, medium-, and high-level abilities that are related to their readiness for school-level needs to be met (Terblanche and Bitzer, 2018). Msibi (2021), cited that the process of curriculum development is divided into three phases: curriculum planning; the establishment of curriculum content and curriculum implementation.

4.3.4.1 Alignment between TVET Curriculum and the Market

Partnerships between colleges and industry are essential for lowering unemployment and facilitating alignment of the college curriculum with industry demands. Sibiya et al. (2021), noted that employers currently have limited influence over curriculum modifications, content and programme delivery. The centralisation of TVET curriculum development and implementation nationally, while permitting companies and employers to participate jointly in TVET course curriculum development should, therefore, be considered in order to facilitate the closure of skills gaps and contribute to the preparedness of TVET college graduates when they enter the workforce (Sibiya et al., 2021).

Solutions aimed at addressing challenges regarding curriculum transformation in terms of practical learning and innovation need to be prioritised, to ensure the TVET sector remains relevant. One of the key initiatives being implemented to assist with the transformation of the TVET curriculum and to re-establish the TVET college sector as a key supplier of mid-level skills is the introduction of the Centres of Specialisation (Government of South Africa, 2023).

Moodley (2024), indicated that outdated curricula and lack of practical training are prevalent in the TVET college sector. Science and maths are two areas in which a skills shortage currently exists, and career awareness in these areas should, therefore, be focused on. Furthermore, the ability of TVET colleges to adapt to the changing industry demands of the twenty-first century both domestically and internationally is essential. Therefore, a number of initiatives are in motion, such as the establishment of seven 4IR centres, supported by stakeholders such as ETDP SETA to increase the proficiency among TVET college students and staff in digital skills (Government of South Africa, 2023).

4.3.5 TVET Outputs

For the majority of the last century, TVET systems in Sub-Saharan Africa have faced criticism for their failure to provide evidence that investing in TVET colleges results in productive employment. In 2017 the unemployment rate amongst South Africans with higher educational qualifications was around 7%, with 33% of these unemployed individuals being TVET graduates, indicating that these graduates appear to have a higher chance of remaining unemployed (Sibiya et al., 2021).

For long term employment among TVET graduates, both technical and soft skills are required, for instance employability skills and attitude. However, employers feedback on internship performance of graduates suggest that graduates do not possess all the skills required (Mesuwini & Bomani, 2021). Mesuwini and Bomani, (2021) further indicate that, fundamentally, it appears that employers do not trust TVET colleges to deliver high quality graduates due to the programme quality, size of the TVETs and inefficiencies, and due to this lack of trust, are hesitant to work with them.

4.3.5.1 TVET Enrolment Rates

The figure below shows the enrolment rates for TVET qualifications between 2010 to 2021.

Figure 4-4: TVET Enrolment Rates: 2010 - 2021

Year	Qualification Category						Total
	NC(V)	Report 191 (N1-N6)	Occupational Qualifications	Other/skills programmes	PLP	Level 5 and Level 6 Qualifications	
2010	130 039	169 774	23 160	35 420	n.a	n.a	358 393
2011	124 658	222 754	20 799	32 062	n.a	n.a	400 273
2012	140 575	359 624	62 359	95 132	n.a	n.a	657 690
2013	154 960	442 287	19 000	23 371	n.a	n.a	639 618
2014	166 433	486 933	19 825	29 192	n.a	n.a	702 383
2015	165 459	519 464	20 533	32 424	n.a	n.a	737 880
2016	177 261	492 026	13 642	22 468	n.a	n.a	705 397
2017	142 373	510 153	10 969	24 533	n.a	n.a	688 028
2018	131 212	482 175	20 106	23 355	285	n.a	657 133
2019	138 912	494 070	22 886	14 025	3 597	n.a	673 490
2020	146 637	274 907	20 130	3 888	5 250	1 465	452 277
2021	141 768	416 949	18 277	6 653	4 581	855	589 083

Source: Department of Higher Education and Training (2023)

Over the past 11 years, TVET enrolments reached a peak in 2015 at 737 880 students. However, between 2016 and 2021, enrolments have been consistently decreasing (2018 to 2019 being the exception) reaching a low point of 452 277 enrolments in 2020, primarily due to the COVID-19 pandemic (Department of Higher Education and Training, 2023). Despite enrolments climbing from 452 277 in 2020 to 589 083 in 2021, further declines were reported in 2022 (508 000 enrolments) and 2023 (497 032 enrolments) (Burger, 2023). This decline is a concerning trend, particularly when considering the NDP's target aimed at ensuring 2.5 million TVET registrations by 2030 (Burger, 2023). Furthermore, when compared to university enrolment rates, which as of 2021 was approximately 1.3 million students, there appears to be challenges with attracting school leavers to TVET colleges.

Research suggests that this may be due to the negative stigma often associated with the programmes offered through TVET colleges, as well as the general misconceptions associated with TVETs, with a recent poll conducted by the SABC revealing that many individuals would opt for universities (43.8% of polled individuals) as opposed to TVET colleges (24.1%) (Magcaba, 2023). Reluctance to enrol in TVET colleges, according to Magcaba (2023), may be due to the way communities perceive degrees, which are available through the traditional university system, versus the diplomas and certificates available through the TVET system. Furthermore, there appears to be a misconception amongst school leavers that attending university is the only path to finding and securing a well-paying job after graduation, and that TVET colleges are strictly for trades (M&G, 2023). There also appears to be a stigma associated with TVET colleges, with the TVET system being seen as an option for those individuals who are unable to gain access to universities based on their secondary schooling results, or for those individuals who do not complete their secondary education, as opposed to being a viable educational option for all individuals seeking to develop their skills (Du Plooy & Du Preez, 2022).

4.3.5.2 TVET Throughput

While it is important to consider the number of students enrolled in TVET colleges, it is equally important to consider TVET college throughput rates. The concept of a throughput rate can be defined as the rate at which a student cohort successfully completes a particular qualification within the stipulated timeframe for said qualification

(Department of Higher Education and Training, 2023). Throughput rates provide a useful barometer for determining the efficiency of a particular educational system. The throughput rates for NC (V) programmes are shown in the figure below.

Figure 4-5: Throughput Rates – NC (V) Level 2 Programmes

			
PROGRAMME TYPE	NUMBER ENROLLED (NC(V)2, 2019)	NUMBER COMPLETED (NC(V)4, 2021)	THROUGHPUT RATE (%)
1 Civil Engineering and Building Construction	4 353	294	6.8
2 Drawing Office Practice	52	2	3.8
3 Education and Development	1 336	350	26.2
4 Electrical Infrastructure and Construction	7 533	292	3.9
5 Engineering and Related Design	7 685	440	5.7
6 Finance, Economics and Accounting	3 344	271	8.1
7 Hospitality	3 937	577	14.7
8 Information Technology and Computer Science	3 598	139	3.9
9 Management	2 657	309	11.6
10 Marketing	2 267	182	8.0
11 Mechatronics	326	27	8.3
12 Office Administration	11 332	1 988	17.5
13 Primary Agriculture	1 870	292	15.6
14 Primary Health	366	63	17.2
15 Process Plant Operations	198	13	6.6
16 Safety in Society	2 285	248	10.9
17 Tourism	3 769	541	14.4
18 Transport and Logistics	1 531	259	16.9
19 Unspecified	21	–	–
Total	58 460	6 287	10.8

Source: Department of Higher Education and Training (2023)

As can be seen above, from a total of 58 460 students that enrolled in the NC (V) Level 2 programmes, only 6 287 graduated with a NC (V) Level 4 qualification, representing a throughput rate of 10.8%. Low throughput rates are reflective of inefficiencies in education investment, primarily because low throughout rates result in smaller class sizes at later levels of the NC (V) programmes. This has a negative impact on the costs per student (i.e., the cost per student increases), given that the same amount of lecturing time is required even in cases whereby class sizes shrink (Department of Higher Education and Training, 2023).

It is important to note that the figure above only reflects throughput rates for one of the three types of programmes that TVET colleges offer. This is due to complications related to measuring the throughput rates of other TVET programme offerings. Research suggests that the data collected on other TVET programme offerings, such as NATED and PLP programmes is not clear in terms of the number of individuals that have graduated, given that DHET changed its method of collecting data on these programmes in 2016 (Du Plooy & Du Preez, 2022). The change in data collection method resulted in instances whereby students were double counted, resulting in unreliable information regarding graduation rates. However, despite the lack of reliable data, research conducted by Pienaar (2016) suggests that TVET throughput rates are as low as 2%, with particularly low certification rates for engineering related programmes.

4.3.6 TVET Lecturer Capacity and Resources

Despite the acknowledgement that the TVET system is one of the primary drivers of societal advancement and change, many education systems still view it as limited. TVET colleges continue to be challenged by the lack of appropriately qualified TVET college lecturers, necessitating the urgent need to re-skill lecturers to facilitate new programmes (Mesuwini & Bomani, 2021). This is supported by Hofmeyr and Vally, (2022) who indicated that TVET lecturer quality is impacted by institutional structures and the degree of independence and responsibility can either facilitate or impede a TVET lecturer's ability to manage, indicating higher levels of independence to be appropriate. In South Africa, a potential TVET lecturer should, at the very least, hold a National Diploma or a Bachelor's Degree in the subject they intend to teach (My Course Editor, 2024). Recent studies found that TVET lecturers lack relevant qualifications and competencies including a lack of workplace qualifications and experience (Oosthuizen et al., 2022). TVET colleges select their top students who have earned the N6 qualification to become lecturers. Even without teaching credentials, individuals with industrial expertise are also hired to teach in TVET colleges (ETDP SETA, 2019). Therefore, the lack of professional work experience will challenge lecturers to correlate course material with real-world applications.

Mesuwini et al. (2022) indicated that experience in the industry is one of the key professional requirements for TVET lecturers. Resourcing TVET colleges entails

supplying material and human resources that are adequately qualified to carry out the workforce development mandate. Additionally, TVET lecturers in South Africa are required to have appropriate industry skills that are aligned to the programmes that they are teaching. Consequently, the DHET outlined a policy on the professional qualifications, industry experience, professional development and quality assurance of TVET lecturers to ensure that lecturers understand specific industry skills requirements and are able to produce graduates that meet the specific industry standards (Mesuwini et al., 2022).

4.4 Strategic Partnerships

Strategic partnerships can be characterised as organisations coming together to resolve conflict or address specific issues which they would not be able to address on their own (Kelly, 2012). The formation of strategic partnerships can be seen to empower individuals to take an active role in identifying and delivering their own needs, and in improving the effectiveness of policy interventions. Partnerships are especially important in today's increasingly competitive market as they can be used to share costs, grow product pipelines and expand geographic boundaries (De Man, 2013). One of the main reasons why organisations implement partnerships is the belief that working together is more effective than working in isolation. While there is no single model for a successful partnership, there is a common factor: partnerships should always be designed to bring relevant stakeholders together within sectors to concentrate on coordinated activities aimed at addressing and improving specific factors (Organisation for Economic Co-operation and Development, 2006).

A research study conducted by FP&MSETA (2015), found that credible and effective skills development partnerships are essential to ensure the delivery of efficient services, which as a result, may contribute to the production of a highly-skilled workforce through various skills development interventions. Thus, continuous collaboration between partners is required in order to optimise skills development.

The Labour Market Intelligence Partnership conducted a research study in 2016, wherein one of the key findings indicated that "SETAs play a crucial role in supporting alignment between employers' skills needs and skills supply organisations". In order to ensure this alignment, the SETAs should facilitate partnerships and networks and build organisational capabilities (Labour Market Intelligence Partnership, 2016). It may be

noted that MQA currently has partnerships with 34 TVET colleges, aimed at supporting the development of lecturers, supporting the development of students, facilitating the offering of learnerships, trades and other industry qualifications and to provide funding or grants to learners and TVET colleges. These partnerships are also intended to enhance the quality of mining education and support research related to mining education and training.

4.4.1 Goals and Objectives of Partnerships, involving TVETs

All SETAs, including the MQA, enter strategic partnerships with TVETs for several reasons. Some of these include the following:

- **Improved skills development and relevance**

According to the LMIP (2016), SETAs play a vital role in ensuring that there is alignment between employers' skills needs and the skills that are being supplied to the sector. SETAs are, therefore, required to work closely with relevant stakeholders, such as TVETs, in an attempt to identify relevant skills needs as well as to build capacity to allow for the production of these skills needs. This is supported by Tshuma (2018) who found that higher education institutions and TVETs have established a strong foundation for entering into strong partnerships which could assist skills development in South Africa. These partnerships could thus be leveraged to enhance skills support services in the communities. He further added that partnerships between organisations, public education institutions (e.g. TVETs and universities) and SETAs are key to the successful implementation of goals and objectives listed in the NSDP 2030.

- **Effective resource sharing and utilisation**

In 2014, the Human Resource Development Council for South Africa ("HRDC") conducted research to investigate partnerships in the TVET sector. The report noted that TVETs are key stakeholders for partnerships given the strong demand they have to meet the industry's skills demand. By entering sustainable partnerships with TVETs, national governments are able to expand access to learning opportunities, generate additional funds and share infrastructure. Furthermore, partnership arrangements enable partners to work together towards shared objectives through the utilisation of

shared resources such as time, financial resources, responsibilities and expertise (Human Resource Development Council, 2021).

- **Increased workplace-integrated learning**

In 2022, the Minister of Higher Education, Science and Innovation, Dr Blade Nzimande instructed that the TVET Colleges Strategic Industrial Partnership Summit be hosted in Cape Town with a key aim of strengthening partnerships and engaging into new partnerships with the industry to facilitate workplace-based learning opportunities for TVET college learners. As part of the Summit, he mentioned that these partnerships were beginning to be successful as partners had more clarity of their defined roles and responsibilities. He further added that these partnerships are crucial as “there is no artisan that can be produced only through theory without practical work experience” (South African Government, 2022).

- **Improved stakeholder engagement**

Partnerships create a collaborative ecosystem involving employers, training providers, and government agencies. This ecosystem facilitates addressing skills gaps and responding to industry changes (Human Resource Development Council, 2021).

4.4.2 International Best Practices for Strategic Partnerships

The table below provides international best practices on how partnerships can be leveraged to enhance TVET offerings.

Table 4-7: Partnership Best Practices

#	Best Practice	Country	Description
1	Expansion of campuses to increase learning opportunities	United States of America	In July 2023, Rio Tinto, considered as one of the largest mining organisations globally, announced that it would renew its support to Southwestern Oregon Community College. Through this support, land was donated to the Community College and the areas provided an opportunity for additional teaching and learning opportunities through the

#	Best Practice	Country	Description
			establishment of a technical facility (Rio Tinto, 2023). Furthermore, the Global Head of the organisation, Mr. Peter Harvey, indicated that by collaborating with communities, the organisation will be able to assist students in maximising their full potential owing to the availability of local and affordable skills training. This will lead to a higher probability of sustainable employment and eventually the employed learners will be able to contribute to their rural areas. As a result, the initiative will contribute to general social and economic development of the targeted communities (Rio Tinto, 2023). On the other hand, the President of the Southwestern Oregon Community College has commended Rio Tinto's efforts as a partner and has indicated that their investment in the communities and campus will result in a long-term positive impact on local/rural employment (Rio Tinto, 2023).
2	Encouraging large mining organisations to enter into partnerships with organisations that could	Mongolia	The United Nations Educational, Scientific and Cultural Organisation ("UNESCO") and Rio Tinto entered into a partnership to enable sustainable development, including sustainable educational initiatives in Mongolia. This collaboration consisted of Rio Tinto utilising its prior experience in the MMS to ensure that TVET programmes available in Mongolia are of high-quality, equitable and inclusive. Consequently, Mongolians will benefit from specialised technical skills and knowledge in

#	Best Practice	Country	Description
	assist vocational skills development		the MMS and Mongolia will be further equipped with technical skills and knowledge required to advance socio-economic progress across the country (Rio Tinto, 2023).
3	Enter into partnerships with international government/bodies to improve vocational training	Tanzania	In October 2022, Tanzania's Minister for Education, Science and Technology announced its ministry's collaboration with the Mining ministry as well as the Canadian Embassy for the establishment of the Vocational Education and Training Authority ("VETA") College in Geita, Tanzania. He further added that Canadian mining organisations have expressed their interests in collaborating with local institutions to provide training and as a result enhance the number of mineral experts in the country. This strategic partnership will assist Tanzania to make continuous progress in the education and MMS (Colleges and Institutes Canada, 2024) In addition to above, Tanzania's Education, Science and Technology ministry has been developing new curricula, new infrastructure and equipment which will further assist the learning environment in the MMS
4	Developing a Partnership Toolkit to Assist with	England	The International Council on Mining and Metals ("ICMM") in London compiled a Toolkit, providing a guide to mining organisations on key stakeholders (including host governments, donor agencies, NGOs, CSOs, communities and local as well as

#	Best Practice	Country	Description
	Strategic Partnerships		international organisations in the sector) to partner with to enhance positive contribution in the MMS. The toolkit focuses on 6 key areas and provides details on different partnerships which could assist mining organisations. The 6 areas include the following (International Council on Mining and Minerals, 2020): • Mining and poverty reduction • Mining and economic development: Revenue management • Mining and economic development: Regional development planning • Mining and economic development: Local content • Mining and social investment • Mining and dispute resolution Across the 6 areas mentioned above, the ICMM has highlighted instances where partnerships with vocational institutions could assist the MMS. For instance, vocational institutions are deemed to be crucial to enable human capital development and training under the 'Mining and economic development: Local content' thematic area. Skills training provided by vocational institutions to one learner can be transferred to other employees of the organisations or members of the community and subsequently, creating value to the society

#	Best Practice	Country	Description
			(International Council on Mining and Minerals, 2020).
5	Collaborating to conduct research on how to enhance TVET's offerings	Switzerland	In July 2023, the International Labour Organisation ("ILO") and the UNESCO collaborated to conduct research on how TVETs offerings can be enhanced. From this research, a Strategy on Skills and Lifelong Learning 2030 report was launched by the ILO and provides several factors which impact the performance TVETs globally. Examples of these factors include the following (International Labour Organisation, 2023): • Unpreparedness of low and middle-income countries the rising demand for TVETs; • Discrepancy between skills demand and supply in the market; • Below par training provided as a result of challenges experienced by learners, lack of support provided to teachers, and weak incentives for providers; • Inequalities such as poverty and high youth unemployment rate within and between countries; and • Irrelevance of courses provided. A key observation from the research acknowledged that whilst reform priorities for TVETs differ across various countries, the latter should place emphasis on learners' needs as opposed to focusing on what TVET institutions can

#	Best Practice	Country	Description
			offer. The research also recommended that countries place an emphasis on enhancing TVETs' performance across their priority sectors first as a means of pursuing quick wins for their country (International Labour Organisation, 2023).
6	Partnerships to create a network of advanced training providers nationally	Sweden	The European Training Foundation published a report focusing on public-private partnerships impacting skills development. The report highlights a Swedish network of advanced training providers known as Teknikcollege, which was launched in 2004 and aims to achieve the following (European Training Foundation, 2020): • Enhancing the quality and efficiency of TVETs; • Improving students' skills and competencies; and • Providing education to meet labour market demand. The network comprises of several key stakeholders, including TVETs across Sweden. The roles of each TVET is clearly defined in formal agreements and eligibility to join the network is defined by the following 8 criteria (European Training Foundation, 2020): • Regional cooperation: Collaboration between municipalities and private companies;

#	Best Practice	Country	Description
			• Organisation and Governance: regional and local steering groups; • Industry skills needs: Match between labour market demand and education curricula; • Training and dimensioning: Certification of training courses responding to company needs; • Creative and stimulating learning environment: Availability of appropriate equipment, training in real work environment; • Education within the technical college: Well-organised learning process in schools; • Participation of the labour market (education): Continuous contacts between students/teachers and companies; and • Quality assurance: Guarantee of constant development of the technical college in line with industry requirements. It is worth noting that at the time that the report was launched, Technikcollege was already provided qualifications in several sub-sectors, including the MMS (European Training Foundation, 2020).

#	Best Practice	Country	Description
7	Promoting collaboration between private organisations and TVETs	Germany	In order to promote skills development and employability of school-leavers, Germany established a dual system of vocational education and training, which prioritises the training of individuals through both classroom-based learning as well as training in a real-life work environment. As part of the dual system, cooperation between small and medium sized companies and publicly funded vocational schools is regulated by law. When undergoing the training, learners spend approximately 70% of their time in a training company, whilst 30% is spent at a vocational school. This system allows trainees to learn occupations through both theory and simulation, whilst employers gain access to skilled workers, thus promoting economic development (Federal Ministry of Education and Research, 2015).

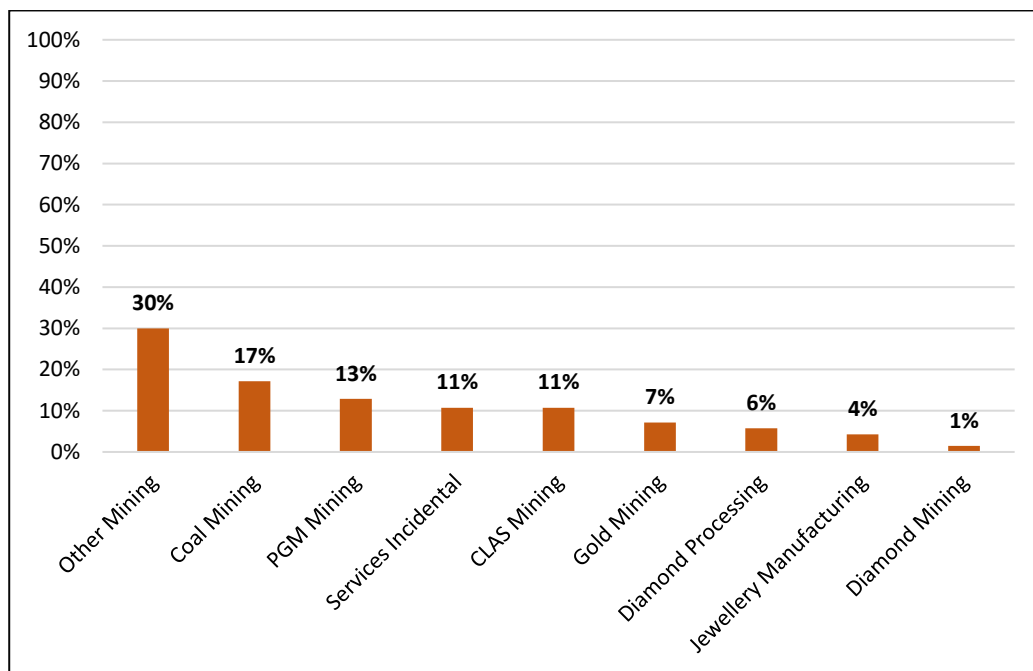
5 Demographic Details of Respondents

In order to provide context to the research findings (detailed in the sections that follow), this section provides an overview of the demographic details of the Employers that participated in the Study, including the provinces in which these organisations were located, the size of the organisations, as well as the sub-sector that organisations represented.

5.1 Sub-sector

The following figure highlights the sub-sectors of the organisations that responded to the survey.

Figure 5-1: Sub-sector Representation of Respondents



Source: MQA TVET Perception Survey, 2024

As seen in the figure above, the majority (i.e., 30%) of survey respondents were part of the other mining sector⁶, followed by Coal mining (i.e., 17%), and PGM mining (i.e., 13%). Both Services Incidental to Mining and the CLAS mining sectors represented

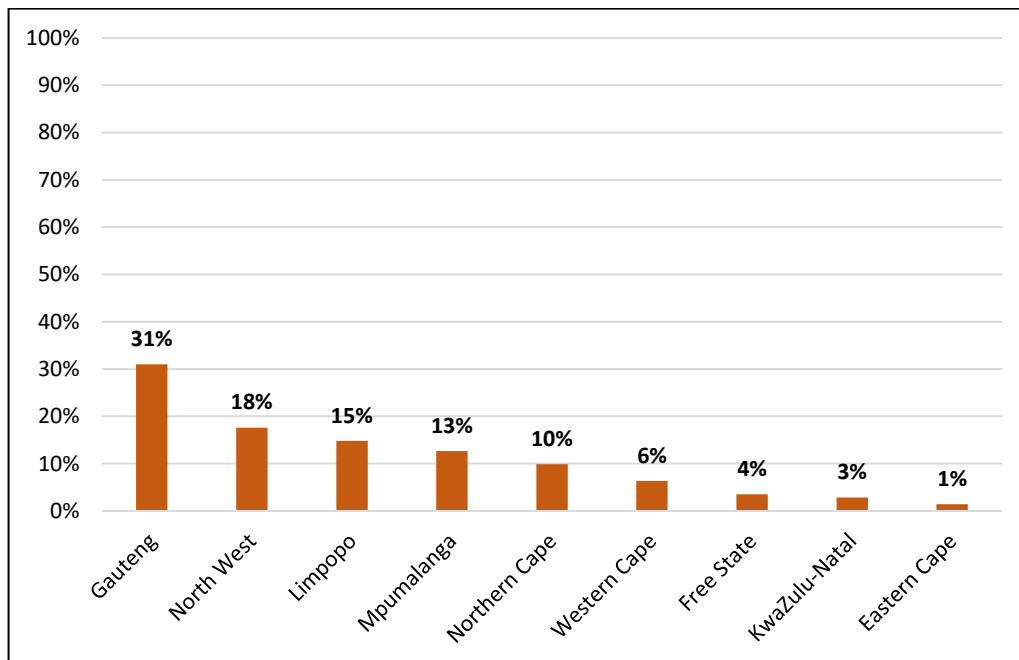
⁶ Other Mining typically refers to mining activities that do not fall under more specific categories such as gold mining, coal mining, platinum mining or diamond mining, Other Mining activities may involve the extraction of commodities less common in the mining industry, such as uranium and nickel.

11% of survey respondents. The Jewellery manufacturing and Diamond mining sub-sectors had the fewest respondents at 4% and 1%, respectively.

5.2 Provincial Representation

The following figure highlights the provincial location of the organisations that responded to the survey.

Figure 5-2: Provincial Representation of Respondents



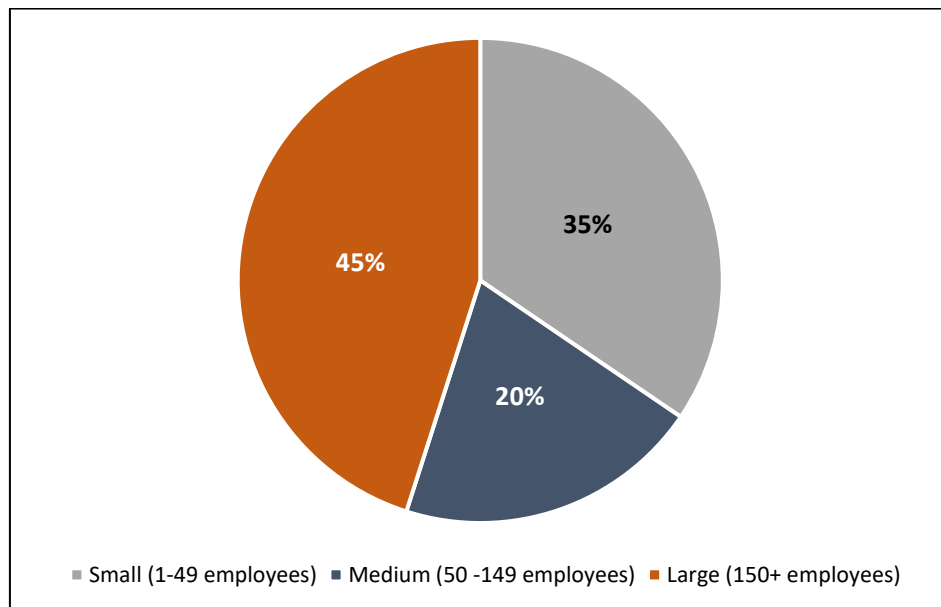
Source: MQA TVET Perception Survey, 2024

As can be seen in the figure above, 31% of respondents were based in Gauteng, followed by 18% from the North-West, 15% from Limpopo and 13% from Mpumalanga. Only 3% of respondents were from KwaZulu-Natal and 1% were from the Eastern Cape.

5.3 Company Size

The following figure highlights the size of the organisations that participated in the survey.

Figure 5-3: Representation of Respondents by Company Size



Source: MQA TVET Perception Survey, 2024

The figure above illustrates that, of the organisations that responded to the survey, 45% represented large organisations, 35% represented small organisations and 20% represented medium sized organisations.

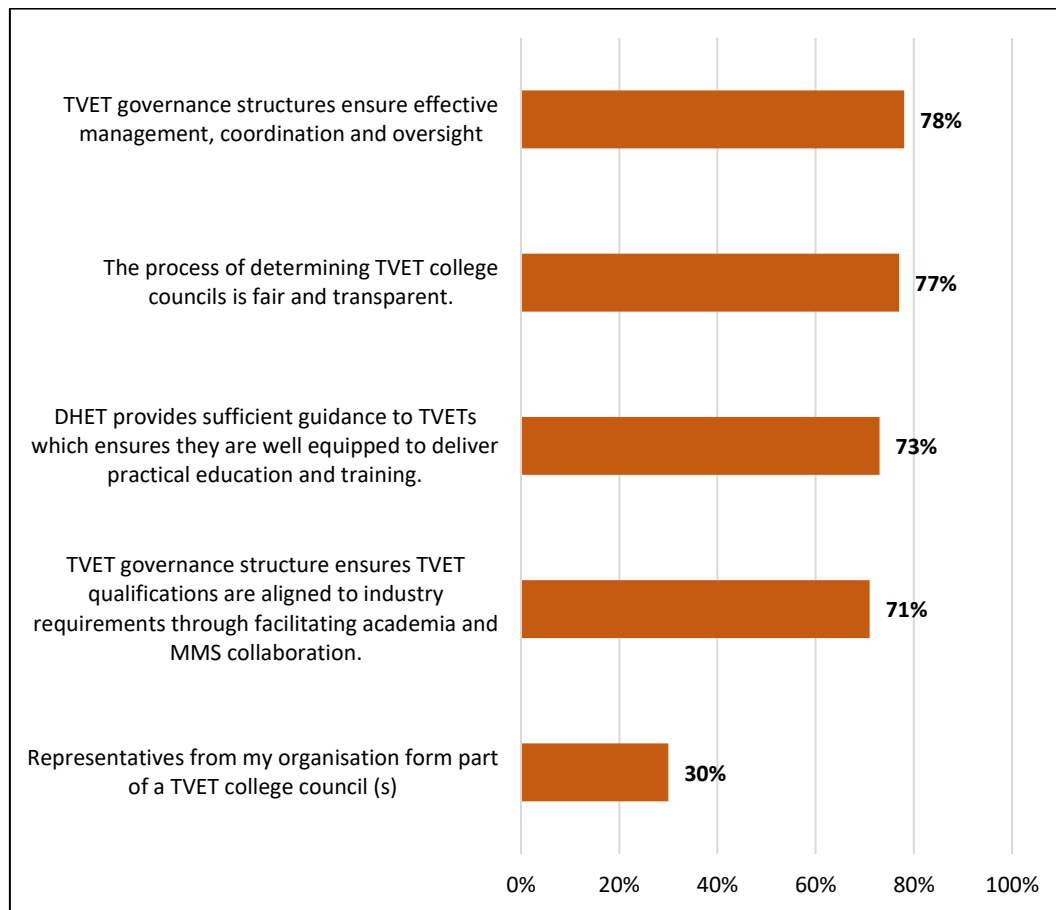
6 Employer Perceptions of the TVET System

Employers' perceptions of the TVET system encompass various critical facets that directly impact the alignment between educational outcomes and industry needs. From TVET governance to the quality of graduates, employers' perspectives provide valuable insights into the effectiveness and relevance of the TVET system in meeting the demands of the labour market. This section examines employers' perceptions of the TVET system across several areas, including TVET governance, curriculum relevance, program delivery, lecturer capacity, learner support services, graduate quality, and partnerships with TVET colleges. Exploring these dimensions should assist policymakers, educators, and stakeholders gain a comprehensive understanding of the strengths, weaknesses, and areas for improvement within the TVET landscape, ultimately fostering a more responsive and dynamic vocational education system that accommodates the evolving needs of industry and MMS.

6.1 TVET Governance

TVET governance plays a pivotal role in shaping the skills landscape and driving economic development in the country as effective TVET governance ensures that education and training programmes are aligned with the needs of specific industries. This in turn, allows learners to be equipped with relevant skills and competencies for the workforce. Therefore, as part of this Study, employers were requested to indicate their perceptions of TVET governance. The figure below illustrates these results.

Figure 6-1: Employer Perceptions of TVET Governance



Source: MQA TVET Perception Survey, 2024

As can be seen in the above figure, 78% of employers agreed that TVET governance structures ensure effective management, coordination, and oversight. Despite these fairly positive scores, employers noted during qualitative consultations that there may still be room to improve the governance structure of TVETs, noting that they may consider looking at how universities are governed.

"I think the governance structure could be improved, look at how universities are governed, if something like that can be done for TVETs then it would help."

(Employer Interview 12, Other Mining, 2024)

The figure above also indicates that 73% of employers are of the view that the DHET provides sufficient guidance to TVETs which ensures they are well equipped to deliver practical education and training.

As noted in Section 4.3.3, a key element of the TVET governance structure is the college council. This college council is typically made up of a variety of representatives,

such as donors and ministerial appointees. It can be seen from the figure above that, currently, there appears to be minimal employer representation on TVET college councils, with only 30% of employers indicating that representatives from their organisations form part of a TVET college council. It is noted that this lack of representation may be resulting in a misalignment between what the sector requires and what TVET colleges are providing. The inclusion of industry in college councils may, therefore, be considered an area for improvement, .

Key Finding

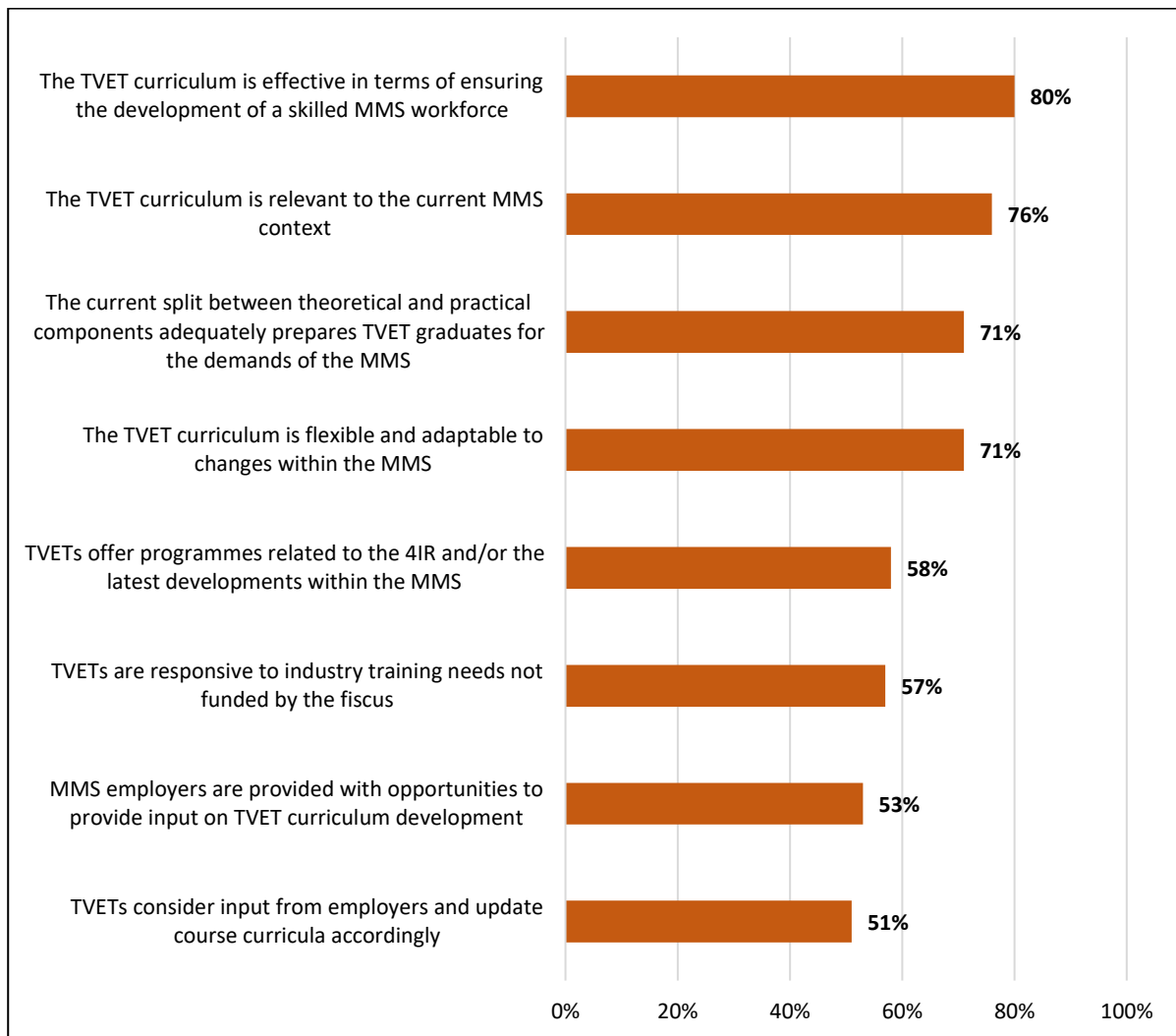
- There appears to be minimal employer representation on TVET college councils, which may be contributing to a lack of alignment between the needs of the sector and the offerings of TVET colleges.

6.2 TVET Curriculum

The TVET curriculum may be considered a key factor that influences the perceptions that employers have of the TVET system. As such, assessing its relevance, effectiveness and flexibility based on the perceptions of employers is key to understanding where areas of improvement may lie and whether the TVET system, through its curriculum, is providing the necessary knowledge, skills and attributes.

The following figure illustrates the extent to which employers agreed with the various factors assessed to understand employer perceptions of the TVET curriculum.

Figure 6-2: Employer Perceptions of TVET Curriculum



Source: MQA TVET Perception Survey, 2024

As seen in the figure above, 80% of respondents agreed that the TVET curriculum is effective in terms of ensuring the development of a skilled MMS workforce. This is followed by 76% of respondents who agreed that the TVET curriculum is relevant to the current MMS context.

In contrast, 51% of employers agreed that TVETs consider input from employers and update course curricula accordingly while 53% of employers agreed that MMS employers are provided with opportunities to provide input on TVET curriculum development. This highlights a potential area for improvement in terms of facilitating further collaboration and partnership between TVETs and employers. This was supported by qualitative feedback received in which employers highlighted a need for

collaboration between employers and TVET colleges and further involvement in the curriculum development process.

“Involvement could be good from a mining industry perspective in general to be able to guide what type of qualifications are offered. With the nature of the mining industry changing, I think that there are opportunities and scope for development and change and it may be worth it to understand what those changes are and to try and align the available qualifications and custom build syllabus to align to it ... Even if they just engage the minerals council in the qualifications development that would be beneficial.”

(Employer Interview 7, Other Mining, 2024)

Other employers echoed similar sentiments, noting that there is a need for greater engagement between employers and TVET colleges to ensure that curriculum is aligned to scarce skills required by the industry.

“TVET colleges should consult with the mining industry before developing curriculum to ensure that they develop curriculum that addresses the scarce skills that are required within the sector.”

(MQA Employer Perception Survey, 2024)

Furthermore, employers noted that TVET colleges should engage with industry in curriculum and qualification development processes to ensure that there is alignment between industry requirements and TVET curriculum, and that learners demonstrate an understanding of the MMS business environment.

“TVET colleges need to engage with employers to understand the MMS and its long-term skills needs and align the curriculum and qualifications to that. There should be a focus on [equipping learners with] technical knowledge and ensuring that there is understanding of the business environment.”

(MQA Employer Perception Survey, 2024)

Further to the above, 58% of respondents agreed that TVETs offer programmes related to the 4IR and/ or latest developments within the sector, indicating room for improvement. This was supported by qualitative feedback in which employers highlighted a potential gap in the response of TVETs to market needs and, in particular, the changes brought about by the 4IR. A lack of communication from TVETs regarding updated curricula was also noted.

“I don’t think that they are currently responding to market needs and changes brought by 4IR, because they haven’t said anything. There is a lack of communication. Change can be brought about through more engagements and workshops like MQA does, if there is a qualification that they need to enrol they call engagement workshops to see how the gap can be closed.”

(Employer Interview 17, Other Mining, 2024)

Examples given by employers pertaining to the types of courses required included modules related to robotics.

“Due to changing world, there is a need to also introduce robotics modules at the TVET colleges. The sector is adopting new technologies in much faster way than imagined.”

(MQA Employer Perception Survey, 2024)

Further to the overall analysis detailed above, the following table illustrates the perceptions of employers regarding the TVET curriculum, per province. This further analysis may allow for specific areas of focus to be identified in each of the provinces.

Table 6-1: Perception of TVET Curriculum per Province

	EC	FS	GP	KZN	LP	MP	NW	NC	WC
The TVET curriculum is relevant to the current MMS context	-	67%	91%	50%	69%	90%	54%	100%	40%
The TVET curriculum is effective in terms of ensuring the development of a skilled MMS workforce	-	50%	92%	50%	77%	83%	64%	100%	50%
The TVET curriculum is flexible and adaptable to changes within the MMS	-	67%	81%	50%	67%	64%	58%	100%	50%
TVET colleges offer programmes related to the 4IR and/or the latest	100%	100%	43%	50%	58%	50%	58%	100%	33%

	EC	FS	GP	KZN	LP	MP	NW	NC	WC
developments within the MMS									
The current split between theoretical and practical components within TVET programmes adequately prepares TVET graduates for the demands of the MMS	100%	100%	82%	33%	67%	80%	50%	80%	40%
MMS employers are provided with opportunities to provide input on TVET curriculum development	-	50%	59%	25%	50%	55%	42%	71%	75%
TVET colleges' consider input from employers within the MMS and update course curricula accordingly	-	50%	59%	25%	58%	55%	30%	56%	50%
TVET colleges' are responsive to industry training needs that are not funded by the fiscus	100%	50%	50%	25%	50%	67%	60%	86%	40%

Source: MQA TVET Perception Survey, 2024

As seen in the table above, the perception amongst employers from KwaZulu-Natal and the Western Cape regarding the TVET curriculum appear to be lower than that of employers from other provinces. In particular, only 25% of employers from KwaZulu-Natal agreed that MMS employers are provided with opportunities to provide input on TVET curriculum development, that TVET colleges' consider input from employers within the MMS and update course curricula accordingly, and that TVET colleges' are responsive to industry training needs that are not funded by the fiscus. Similarly, less than half of employers from the Western Cape agreed with four of the assessed areas, including that TVET colleges offer programmes related to the 4IR and/or the latest developments within the MMS or that the TVET curriculum is relevant to the current MMS context. This may indicate room for improvement as it pertains to the curriculum of TVET colleges in these provinces and may warrant further investigation.

Further to the above, in order to understand whether the size of the employer has any bearing on the perception of the TVETs, the table below provides an indication of the perceptions of the TVET Curriculum by employer size.

Table 6-2: Perception of TVET Curriculum by Company Size

	Small	Medium	Large
The TVET curriculum is relevant to the current MMS context	83%	81%	70%
The TVET curriculum is effective in terms of ensuring the development of a skilled MMS workforce	83%	83%	77%
The TVET curriculum is flexible and adaptable to changes within the MMS	75%	73%	68%
TVET colleges offer programmes related to the 4IR and/or the latest developments within the MMS	47%	77%	57%
The current split between theoretical and practical components within TVET programmes adequately prepares	68%	78%	68%

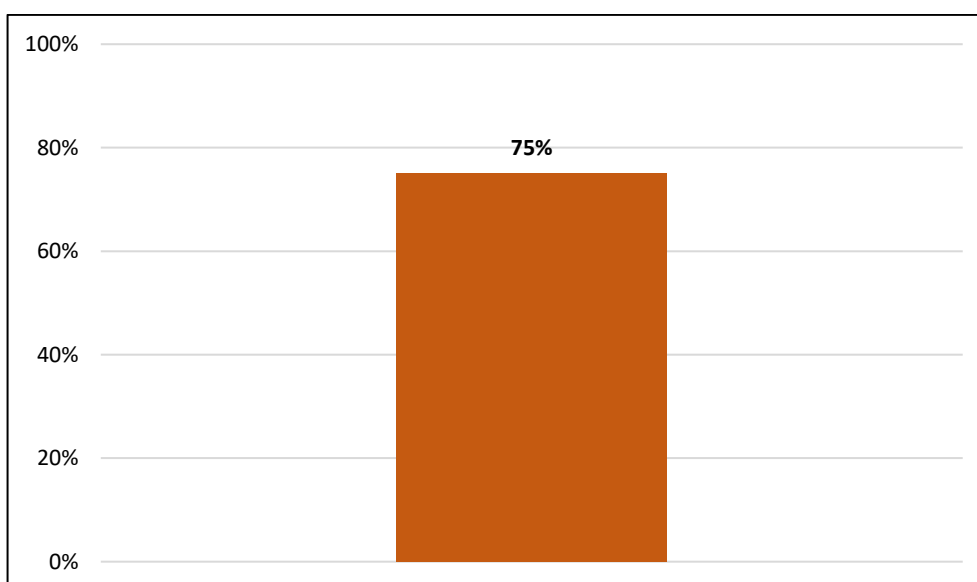
	Small	Medium	Large
TVET graduates for the demands of the MMS			
MMS employers are provided with opportunities to provide input on TVET curriculum development	58%	56%	48%
TVET colleges' consider input from employers within the MMS and update course curricula accordingly	58%	57%	44%
TVET colleges' are responsive to industry training needs that are not funded by the fiscus	44%	63%	61%

Source: MQA TVET Perception Survey, 2024

As can be seen above, the perceptions of the TVET college curriculum appear to fairly consistent across employers of different sizes.

In addition to assessing the employers' perceptions of the above factors, the research also sought to assess the satisfaction of employers with the overall quality of the qualifications available through the TVET system.

Figure 6-3: Employer Satisfaction with the Quality of TVET Qualifications



Source: MQA TVET Perception Survey, 2024

As seen in the figure, 75% of employers indicated that they are satisfied with the quality of qualifications available through the TVET system indicating a fairly positive perception of the quality of TVET system qualifications amongst employers. This was supported by employers who noted that TVETs do not appear to be lacking in quality.

"I don't question the quality of the qualifications, from what I've seen it doesn't seem to be lacking or not aligned to the standards that we are looking for."

Employer Interview 7, Other Mining, 2024

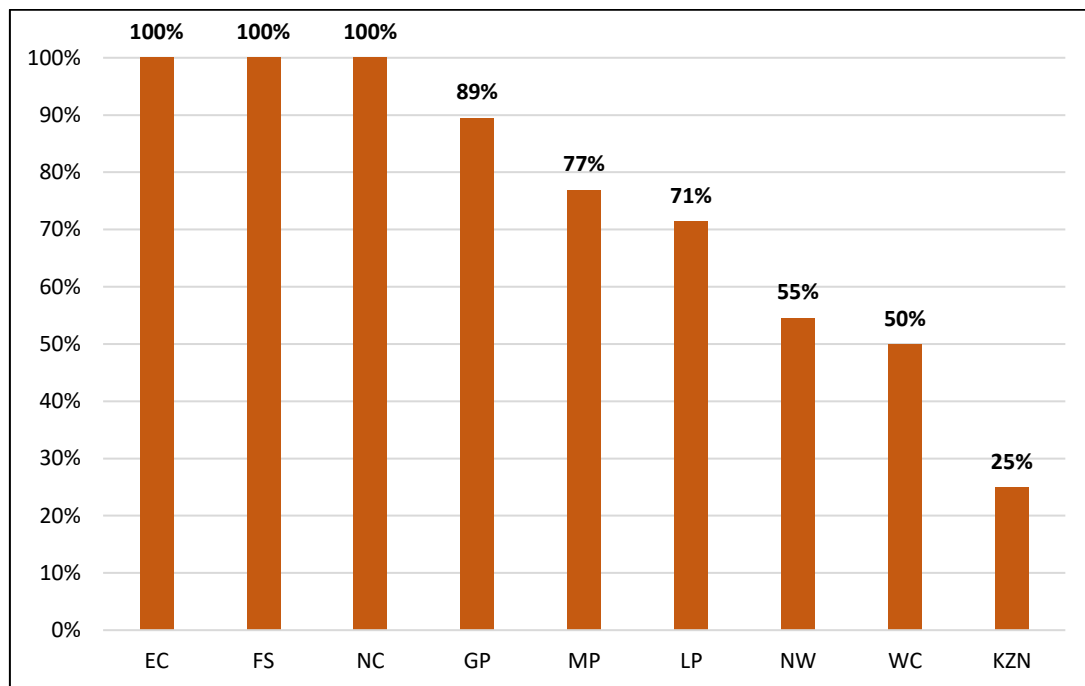
With regard to the quality of TVET qualifications, it was noted that employers' perceptions of the quality of the qualification is often influenced by the quality of the individual, rather than the institution from which the individual received their qualification. When assessing the quality of the individual, employers highlighted factors such as personal motivation and the level of understanding of the career progression within an organisation as drivers that influence their perception. While the perception of TVET qualifications is largely positive amongst employers, the finding regarding the emphasis placed on the individual highlights a potential area for the development of learners through the provision of career guidance and mentorship services by TVETs.

"I think TVET qualifications are of a fair quality, but again, it's the type of individuals that come out of the college. It's very much about the individual and if certain things are not covered in the course then that individual needs to be motivated enough to ask how things work, be inquisitive. Those are big drivers from the employer's point of view, when we look at things like this, we prefer individuals that are motivated."

Employer Interview 5, CLAS Mining, 2024

Further to the above, and in order to achieve a more in-depth understanding of the satisfaction of employers with the quality of TVET qualifications, employer satisfaction was analysed per province as well as company size.

Figure 6-4: Employer Satisfaction with the Quality of TVET Qualifications per Province

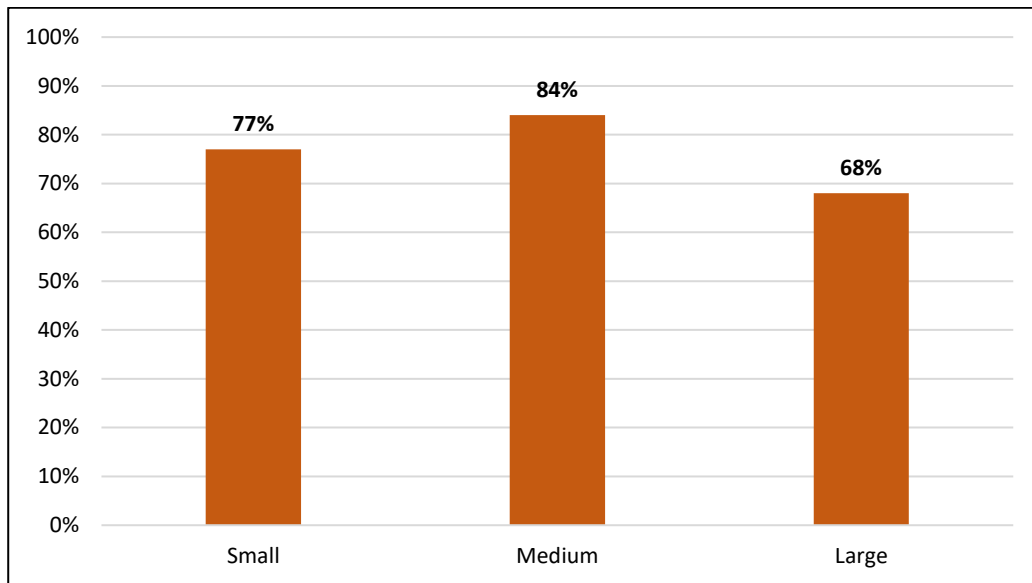


Source: MQA TVET Perception Survey, 2024

As can be seen in the figure above 100% of employers from the Eastern Cape, Free State and Northern Cape are satisfied with the overall quality of the qualifications available through TVETs. Contrastingly, only 25% of employers from KwaZulu Natal noted satisfaction with the quality of qualifications from TVETs.

The figure below highlights the satisfaction with the quality of qualifications according to company size.

Figure 6-5: Employer Satisfaction with the Quality of TVET Qualifications by Company Size

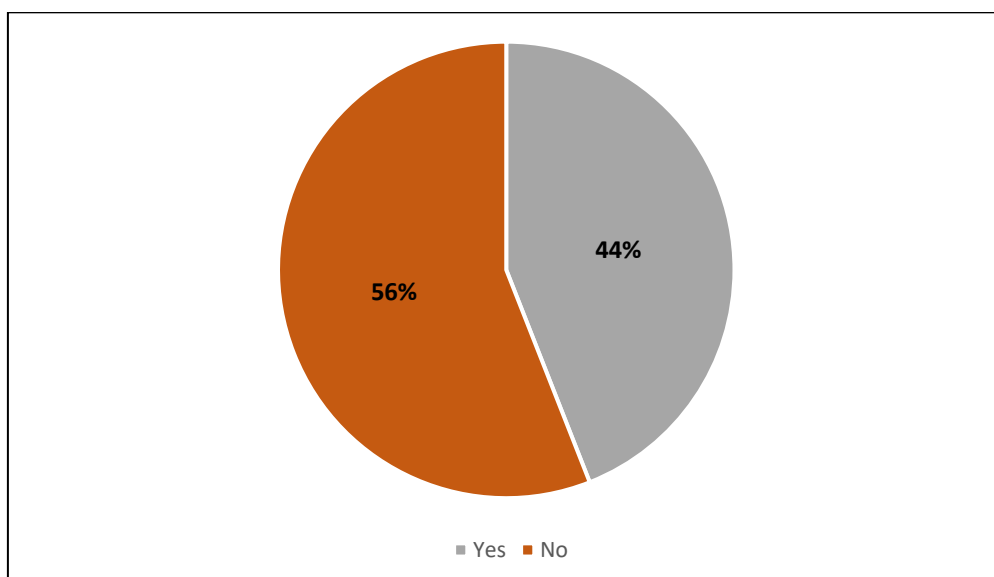


Source: MQA TVET Perception Survey, 2024

Positively, the majority of employers from all company sizes have fairly positive perceptions of the quality of qualifications provided by TVETs.

The figure below highlights whether employers have observed any gaps or mismatches between the skills taught in the qualifications offered through the TVET system and the job requirements within employer organisations.

Figure 6-6: Skills Gaps or Mismatches Between Skills Taught and Job Requirements Observed?



Source: MQA TVET Perception Survey, 2024

As can be seen, 56% of employers indicated that they have not observed any gaps or mismatches between the skills taught and job requirements within their organisations, while 44% of employers have observed gaps or skills mismatches. Employers who noted that they have observed specific gaps or mismatches highlighted a lack of practical skills and knowledge, with some employers attributing this to a lack of practical knowledge amongst the TVET lecturers or facilitators, with employers noting that lecturers may not have a complete understanding of the context of organisations within the MMS.

“The learners have more theoretical knowledge but practical skill / knowledge is very limited.”

(MQA Employer Perception Survey, 2024)

“The TVET lecturers lack practical job knowledge and therefore their trainings are mostly theoretical with no knowledge of industries they should be serving.”

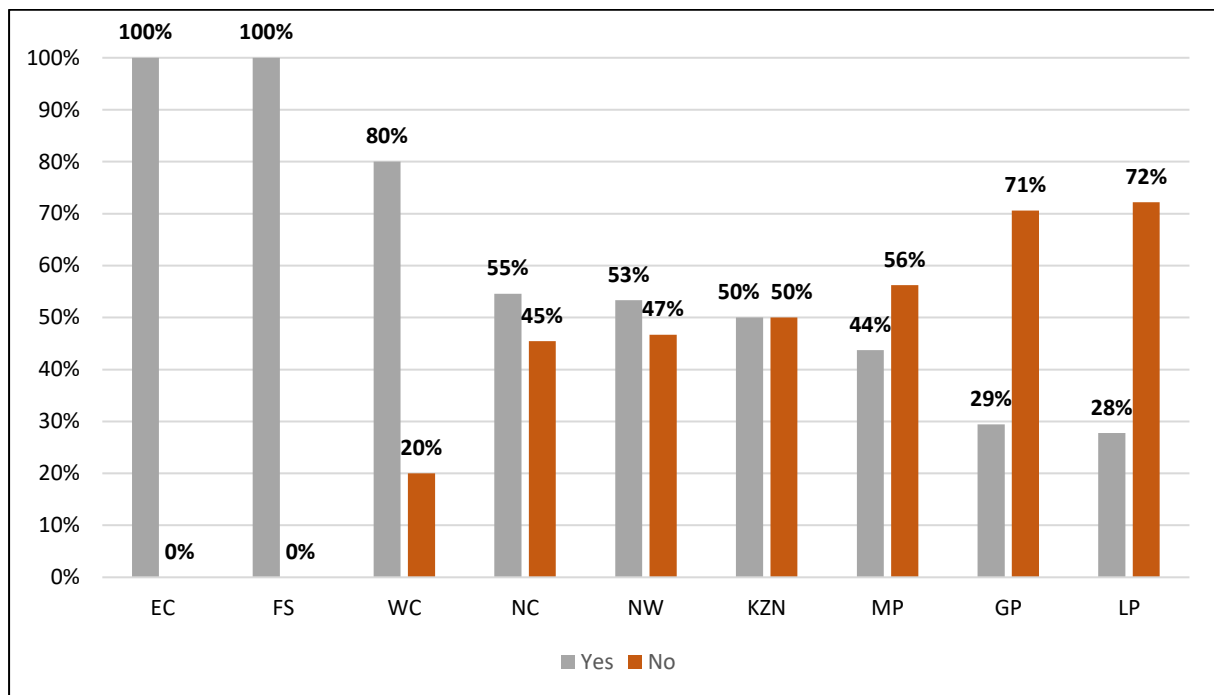
(MQA Employer Perception Survey, 2024)

“There's a lot of relevant information that is current that the learners are not being taught. I would almost say that perhaps the lecturers and the trainers need to spend some time within the work context in order for them to understand what happens there, and then formulate a curriculum that actually serves the business.”

(Employer Interview 15, Gold Mining, 2024)

The observed skills mismatches were further analysed according to province as well as company size. The figure below highlights whether employers from each province observed any gaps or mismatches between the skills taught in the qualifications offered through the TVET system and the job requirements within employer organisations.

Figure 6-7: Observed Skills Gaps or Mismatches Between Skills Taught and Job Requirements per Province

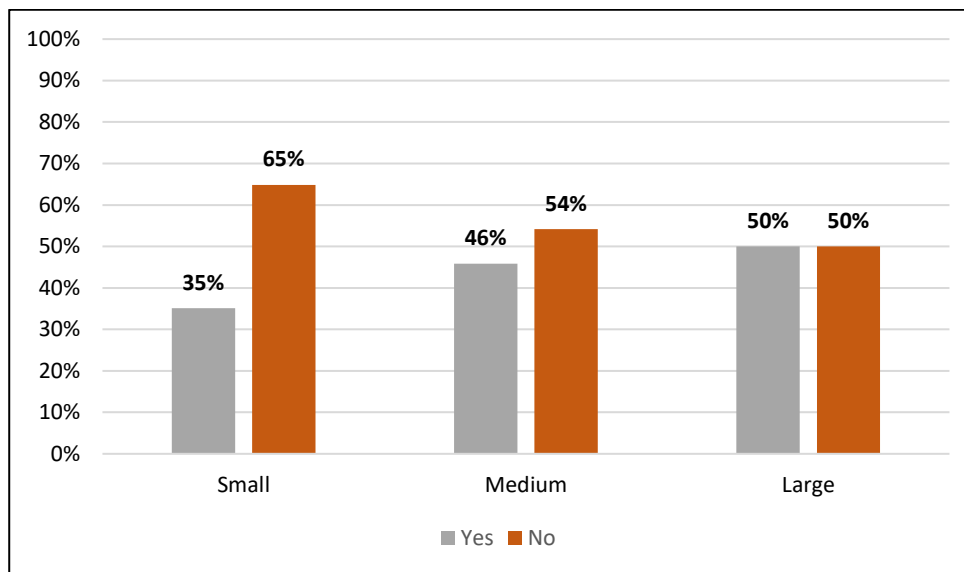


Source: MQA TVET Perception Survey, 2024

As seen in the figure above, 100% of employers representing the Eastern Cape and the Free State observed specific skills mismatches between what is taught and the particular job requirements. This is followed by 80% of respondents from the Western Cape. Furthermore, more than half of the employers from KwaZulu Natal (50%), Mpumalanga (56%), Gauteng (71%) and Limpopo (72%) did not observed any skills gaps or mismatches.

The following figure illustrates whether there have been any observed skills gaps or mismatches between the skills taught and job requirements by company size.

Figure 6-8: Observed Skills Gaps or Mismatches Between Skills Taught and Job Requirements by Company Size



Source: MQA TVET Perception Survey, 2024

As illustrated above, more employers representing small and medium sized organisations have not observed particular skills gaps or mismatches, at 65% and 54%, respectively. Large organisations have equally observed (50%) and not observed (50%) skills gaps or mismatches between the skills taught and the job requirements within their organisations.

Key Findings

- Further partnerships and collaboration between employers and TVETs may be required as it pertains to the development of TVET curriculum, with just more than half of employers agreeing that TVETs consider input from employers and update course curricula accordingly or that MMS employers are provided with opportunities to provide input on TVET curriculum development.
- There appears to be room for improvement in terms of TVET colleges offering courses related to the 4IR or the latest developments in the industry, with a demand for more relevant training to be provided by TVETs, such as courses related to robotics, being noted.
- Employers identified practical experience as a skills gap in the training provided by TVETs, noting that this may be due to a lack of practical knowledge amongst TVET lecturers.

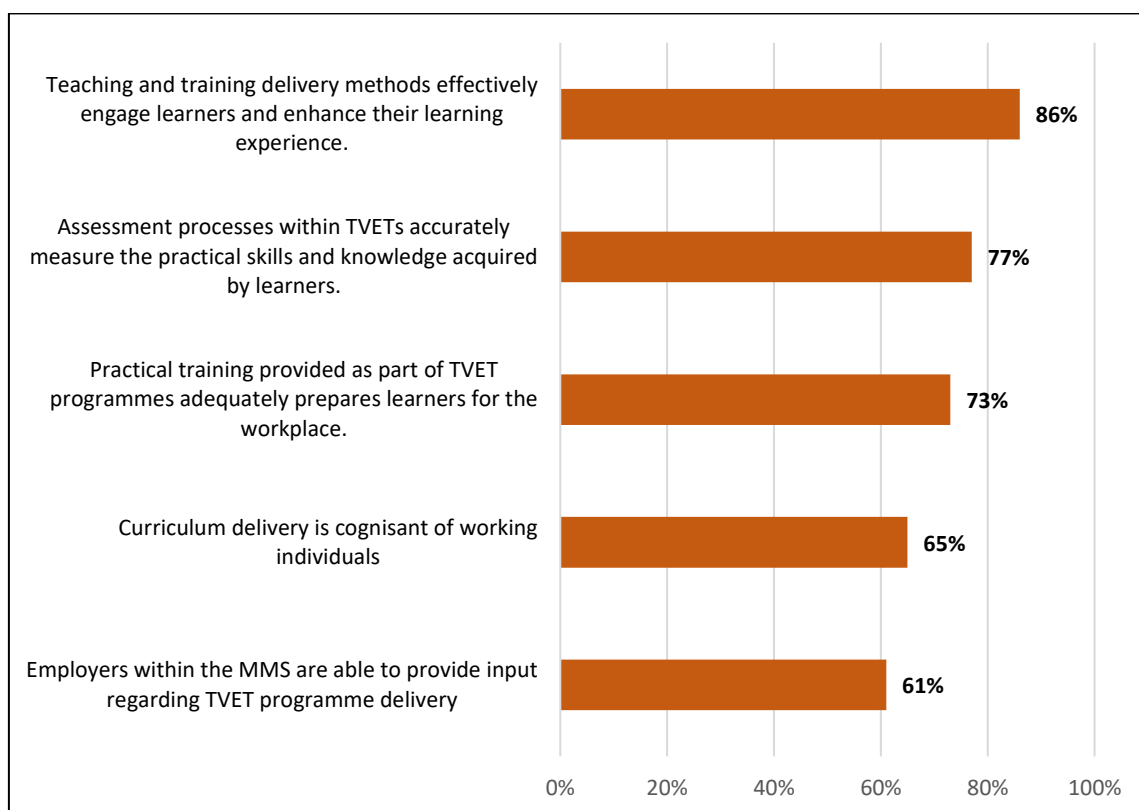
6.3 Programme Delivery

Programme delivery was assessed by understanding employers' perceptions of the teaching and training delivery methods offered by TVETs, TVETs' assessment processes, the practical training provided, whether employers have the opportunity to

provide input on programme delivery and the cognisance of the curriculum of working individuals.

The following figure illustrates the extent to which employers agreed with the various aspects used to assess programme delivery.

Figure 6-9: Employer Perceptions of Programme Delivery



Source: MQA TVET Perception Survey, 2024

As seen in the figure above, 86% of employers agreed that the teaching and training delivery methods employed by TVET colleges effectively engage learners and enhance their learning experience. This is followed by 77% of employers who agreed that assessment processes within TVETs accurately measure practical skills and knowledge.

Additionally, 65% of employers agreed that the curriculum is cognisant of working individuals. Employers, through qualitative survey input, highlighted that the TVET structure appears to be fairly rigid and not necessarily supportive of working individuals.

“...most of their arrangements are rigid and not supportive of working people.”

(MQA Employer Perception Survey, 2024)

With regard to employers within the MMS being able to provide input regarding TVET programme delivery, 61% of employers agreed they are able to do this. Employers noted during qualitative consultations that there may be room to improve in terms of getting employers and the industry involved in programme delivery through the sponsorship of equipment or through partnerships.

“...you need the industry to sponsor the TVETs in terms of infrastructure, equipment, getting exposed to work place scenarios. Sometimes we need to look at how TVETs get funded, particularly as it pertains to equipment. So you have to look at it from the TVET perspective, should the industry have an interest in giving them access to the type of equipment that they can do their training on, sometimes you need to invest from a public-private partnership perspective. If the TVETs get access to real world examples, and it is relevant in today’s world, then it could be a step in the right direction.”

(Employer Interview 19, Coal Mining, 2024)

Further to the above, the perceptions of employers of certain aspects related to programme delivery were analysed according to each province in order to highlight where particular perceptions may be lower than others.

Table 6-3: Perceptions of Programme Delivery per Province⁷

⁷ As part of the segmented analysis, emphasis was placed on analysing those areas where the province and size of organisations are more likely to have an impact on a respondent's perception.

	EC	FS	GP	KZN	LP	MP	NW	NC	WC
The teaching and training delivery methods employed in TVET programmes effectively engage learners and enhance their learning experience.	100%	100%	95%	67%	83%	73%	75%	100%	100%
The practical and hands-on training provided as part of TVET programmes adequately prepares learners for the workplace.	-	100%	91%	67%	75%	67%	44%	78%	40%
Assessment processes (e.g. tests and practicals undertaken) within TVET programmes accurately measure the practical skills and knowledge acquired by learners.	100%	100%	89%	67%	77%	80%	55%	88%	50%

Source: MQA TVET Perception Survey, 2024

As seen in the table above, employers from the Free State appear to have particularly positive perceptions of the factors being assessed as part of TVET programme delivery with 100% of respondents agreeing that the teaching and training delivery methods are effective, that practical hands-on training is adequate and that assessment processes accurately measure the skills and knowledge acquired by learners. Comparatively, fewer respondents from the Northwest, Western Cape and KwaZulu-Natal agreed with the three areas being assessed, with only 44% and 40% of employers from the North West and the Western Cape agreeing that the practical hands-on training provided adequately prepares learners for the workplace, respectively.

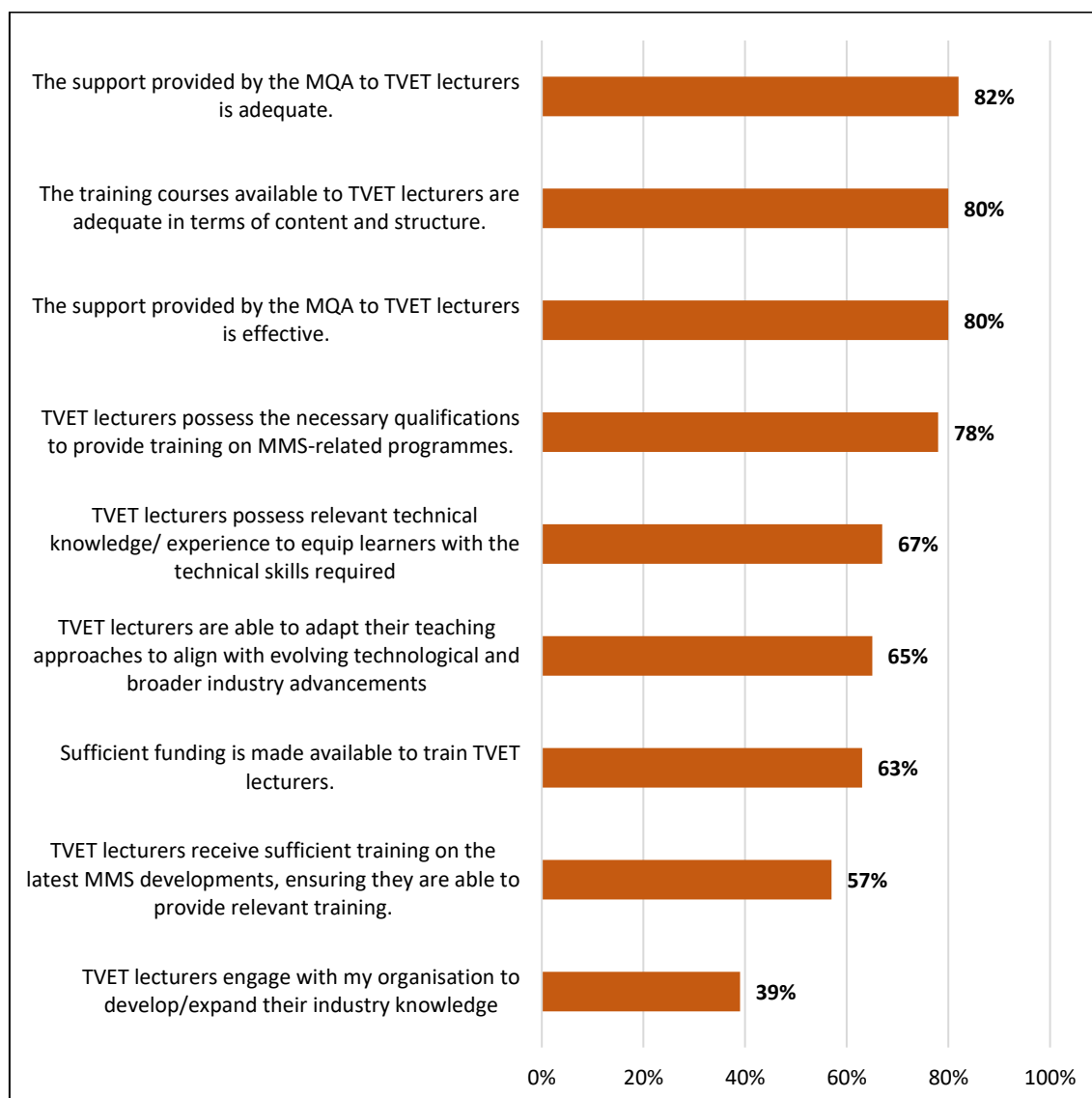
Key Finding

- Programme delivery is perceived as mostly positive by employers, however qualitative input highlighted areas for improvement including the rigidity of the programme delivery for working individuals as well as the potential need for enhanced engagement between TVETs and industry to allow employers the opportunity to provide input on programme delivery through sponsorship or partnerships.

6.4 TVET and Lecturer Capacity

The quality and relevance of vocational education are significantly influenced by the capabilities of lecturers in TVET colleges, which directly impacts the employability and quality of skills amongst students. When lecturers possess up-to-date qualifications and industry expertise, they are able to effectively bridge theory and practice, ensuring students gain in-demand skills. Lecturer capacity encompasses a range of factors, including qualifications, expertise, teaching methodologies, and professional development opportunities. In addition to lecturer capacity, the overall capacity of TVET institutions from a resource perspective, particularly in terms having the adequate infrastructure and having access to relevant learning material and equipment plays a vital role in delivering high-quality vocational education. For this Study, employers were asked to indicate how they perceive different aspects of TVET and lecturer capacity. The employer perceptions of lecturer capacity are outlined in the figure below.

Figure 6-10: Employer Perceptions of Lecturer Capacity



Source: MQA TVET Perception Survey, 2024

The above figure indicates that 82% of employers perceive the support provided by the MQA to TVET lecturers as adequate, whilst 80% of employers perceived the support provided by the MQA to be effective.

“For my organisation, MQA provide support to TVET lecturers, and I suggest other TVETs across should get the same support.”

(MQA Employer Perception Survey, 2024)

The figure above further indicates that 63% of employers noted that sufficient funding is made available to train TVET lecturers. This was corroborated through qualitative

input with employers suggesting that the MQA should ensure sufficient funding is provided to train TVET lecturers in alignment with MMS requirements.

“The MQA can ensure that there is sufficient funding for training lecturer on MMS requirements, and to communicate with the MMS regularly when there is a pool of graduates who have completed their studies, to be absorbed on internships and learnerships.”

(MQA Employer Perception Survey, 2024)

Only 57% of employers agreed that TVET lecturers receive sufficient training on the latest MMS developments that allows them to provide relevant training, indicating that there may be room to improve in this regard. Employers suggested that lecturers need to stay up to date with relevant skills and training and that lecturers are only capacitated to a certain extent, consequently impacting the lecturer capacity of TVET colleges.

“...There is room for improvement – there are a lot of shortages in terms of lecturers, you would get someone who has done N6, they become lecturers, they need to be brought up to speed, they need to be made technically inclined, they need to have practical, assessing, and moderating skills, these are core skills that they lack. They are only capacitated up to an extent. Learners need to be taught from N1-N6, lecturers do not have knowledge beyond that, if learners ask anything beyond that then lectures are thrown off.”

(Respondent 13, Employer Interview, Other Mining, 2024)

Employers further suggested that a greater level of lecturer training should take place to ensure TVET lecturers receive sufficient training on the latest MMS developments.

“It was also suggested that greater levels of lecturer training occur whereby lecturers go for industry training/exposure.”

(Focus Group 2, 2024)

Moreover, only 39% of employers indicated that TVET lecturers engage with their organisation to allow the lecturers to develop and expand their industry knowledge, indicating that there may be room to enhance the engagement between TVET lecturers and organisations within the MMS. Qualitative input further corroborates the view of TVET lecturers not engaging with organisations within the MMS, in order to expand their industry knowledge, with employers citing that lecturers have not been exposed to the industry, which results in a lack of industry knowledge amongst said lecturers.

“Lecturers in TVET colleges have not been exposed to the industry itself. Lecturers need to have the knowledge to answer different questions that learners might raise at TVET colleges, which is currently not the case.”

(Focus Group 1, 2024)

“TVET colleges and lecturers need to have an inside knowledge of what mines is all about - there are many different types of mines. Teaching what you think you know and yet you don’t know, is theory. It would be good for the lecturers themselves to have some sort of background knowledge in mining ... So, I would think this would be a main barrier, that the lecturers don’t have the background that they need.”

(Employer Interview 8, Other Mining, 2024)

To provide additional context to the aforementioned results, further analysis of the perceptions of TVET lecturer capacity was conducted per province and company size in order to ascertain potential disparities across different provinces, and organisations of different sizes. Employer perceptions of lecturer capacity per province are summarised below.

Table 6-4: Employer Perceptions of Lecturer Capacity per Province

	EC	FS	GP	KZ N	LP	MP	NW	NC	WC
TVET lecturers possess the necessary qualifications to provide training on MMS-related programmes.	-	100 %	88 %	33 %	62 %	70 %	71 %	100 %	100 %
TVET lecturers possess the relevant technical knowledge/ experience to equip learners with the technical skills required within the MMS	-	100 %	88 %	33 %	64 %	56 %	33 %	100 %	33%
TVET lecturers are able to adapt their teaching approaches to align with evolving	-	-	67 %	33 %	83 %	73 %	29 %	86%	67%

	EC	FS	GP	KZ N	LP	MP	NW	NC	WC
technological and broader industry advancements within the MMS.									
TVET lecturers receive sufficient training on the latest MMS developments which ensures that they are able to provide relevant, up-to-date training.	-	100 %	54 %	33 %	67 %	56 %	43 %	100 %	33%
Sufficient funding is made available to train TVET lecturers.	100 %	100 %	69 %	-	80 %	75 %	25 %	67%	50%
The support provided by the MQA to TVET lecturers is adequate.	100 %	100 %	85 %	50 %	88 %	67 %	86 %	100 %	100 %
The support provided by the MQA to TVET lecturers is effective.	100 %	100 %	92 %	50 %	89 %	64 %	75 %	100 %	67%
The training courses available to TVET lecturers are adequate in terms of content and structure.	-	100 %	85 %	33 %	83 %	71 %	60 %	100 %	100 %
TVET lecturers engage with my organisation to develop/expand their industry knowledge	0%	50%	33 %	0%	64 %	31 %	20 %	71%	25%

Source: MQA TVET Perception Survey, 2024

As can be seen in the above table, the perceptions of TVET lecturers from employers in KwaZulu-Natal appeared to be fairly poor, with 0% of employers from KwaZulu-Natal indicating that TVET lecturers engage with their organisation to develop and expand their industry knowledge. There also appears to be room to improve the perceptions of employers from North West across a number of areas, with 29% of employers indicating that TVET lecturers are able to adapt their teaching approaches to align with evolving technological and broader industry advancements within the MMS, 33% agreeing that TVET lecturers possess the relevant technical knowledge/ experience to equip learners with the technical skills required within the MMS and 43% agreeing that TVET lecturers receive sufficient training on the latest MMS developments which ensures that they are able to provide relevant, up-to-date training.

The employer perceptions of lecturer capacity per size are summarised below.

Table 6-5: Employer Perceptions of Lecturer Capacity per Organisation Size

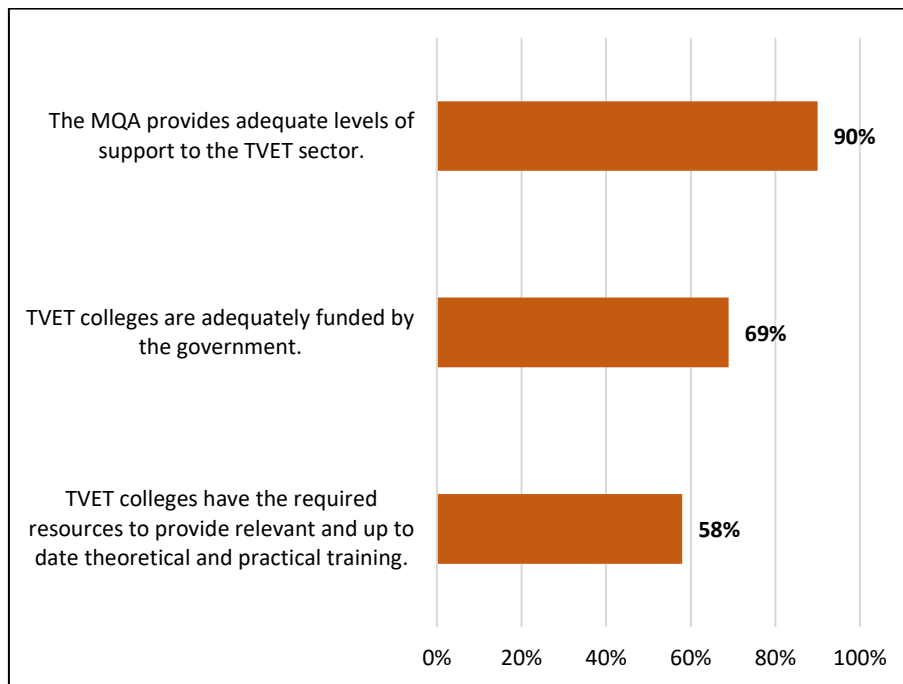
	Small	Medium	Large
TVET lecturers possess the necessary qualifications to provide training on MMS-related programmes.	82%	87%	71%
TVET lecturers possess the relevant technical knowledge/ experience to equip learners with the technical skills required within the MMS	73%	77%	58%
TVET lecturers are able to adapt their teaching approaches to align with evolving technological and broader industry advancements within the MMS.	67%	91%	55%
TVET lecturers receive sufficient training on the latest MMS developments which ensures that they	50%	90%	46%

	Small	Medium	Large
are able to provide relevant, up-to-date training.			
Sufficient funding is made available to train TVET lecturers.	67%	73%	57%
The support provided by the MQA to TVET lecturers is adequate.	85%	75%	84%
The support provided by the MQA to TVET lecturers is effective.	85%	82%	78%
The training courses available to TVET lecturers are adequate in terms of content and structure.	92%	90%	70%
TVET lecturers engage with my organisation to develop/expand their industry knowledge	33%	47%	39%

Source: MQA TVET Perception Survey, 2024

The above table indicates that the perceptions of TVET lecturers are fairly consistent across organisations of different sizes, with the exception of perceptions pertaining to whether TVET lecturers are able to adapt their teaching approaches and whether TVET lecturers receive sufficient training. In terms of whether TVET lecturers are able to adapt their teaching approaches, whilst 91% of medium organisations agreed with this, only 67% and 55% of small and large organisations, respectively, agreed the same. Furthermore, 90% of medium organisations agreed that TVET lecturers receive sufficient training, whilst only 50% and 46% of small and large organisations, respectively, agreed the same.

In addition to understanding employer perceptions regarding lecturer capacity, employers were also asked to indicate how they perceive the capacity of TVET colleges and the support TVET colleges receive. These findings are illustrated in the figure that follows.

Figure 6-11: Employer Perceptions of TVET Capacity

Source: MQA TVET Perception Survey, 2024

The above figure illustrates that 90% of employers that responded to the survey were of the view that the MQA provides adequate levels of support to the TVET sector. Employers recognised the partnerships that MQA has with the TVET colleges in their area, indicating that they perceived the MQA to be supporting the TVETs.

“Yes, from what I have heard the MQA is supporting the TVETs. From where I come from there was a partnership between MQA and TVETs.”

(Employer Interview 14, Employer Interview, Coal Mining, 2024)

Employers did note however, that there may be room to improve as it pertains to MQA providing support to bridge the gap between mines and TVETs.

“If MQA can give support when TVETs want to do practical modules or training, they can support the TVETs and help to facilitate bridging the gap between the mine and TVETs.”

(Employer Interview 22, Other Mining, 2024)

69% of employers indicated that TVET colleges are adequately funded by the government, with some employers noting that the funding being provided to TVETs should be increased.

“Increase the funding budgets to TVETs.”

(MQA Employer Perception Survey, 2024)

Only 58% of employers indicated that TVET colleges have the required resources to provide relevant and up-to-date theoretical and practical training. This was corroborated by qualitative input with employers suggesting that TVETs do not have the required resources for particular programmes or courses, consequently impacting the theoretical and practical training that TVET colleges can offer.

“No, they don’t have the right resources. One of the institutions I visited all they had was a tractor, and I am asking, can that student learn everything that they need to learn from a tractor, but yet they are a MQA registered institution. So did the MQA do the inspection to say this institution will be able to do this type of development, but the machinery required for this development is not even there.”

(Employer Interview 11, CLAS, 2024)

Employers further indicated that TVET colleges lack the required resources such as suitable lecturers, relevant training, facilities, and equipment to conduct relevant and up-to-date theoretical and practical training and qualifications.

“I think the main impact is the facilities, meaning that they need qualified, suitable lectures, they need relevant training and education facilities, they need relevant equipment to conduct their qualifications.”

(Employer Interview 1, PGM Mining, 2024)

In order to offer additional context to the previously mentioned findings, additional analysis was undertaken according to province to identify potential variations across different regions. Employer perceptions of TVET capacity per province are summarised below.

Table 6-6: Employer Perceptions of TVET Capacity per Province⁸

	EC	FS	GP	KZ N	LP	MP	NW	NC	WC
TVET colleges are adequately funded by the government.	-	100 %	75 %	67 %	92 %	64 %	20 %	50 %	100 %

⁸ As part of the segmented analysis, emphasis was placed on analysing those areas where the province in which organisations are based are more likely to have an impact on a respondent’s perception.

	EC	FS	GP	KZ N	LP	MP	NW	NC	WC
TVET colleges have the required resources (e.g., learning materials, equipment) to provide relevant and up to date theoretical and practical training.	100 %	100 %	62 %	33 %	64 %	50 %	25 %	40 %	100 %

Source: MQA TVET Perception Survey, 2024

As can be seen in the above table, Northwest performed relatively poor across the two areas with only 20% of Northwest employers indicating that TVET colleges are adequately funded by the government, and only 25% of North West employers suggesting that TVET colleges have the resources to provide relevant and up-to-date theoretical and practical training. Furthermore, only 33% of KwaZulu-Natal employers indicated that TVET colleges have the resources to provide relevant and up-to-date theoretical and practical training. Northern Cape also performed relatively poor in this area with 40% of employees suggesting that TVET colleges have the resources to provide relevant and up-to-date theoretical and practical training. This may, therefore, require further exploration into the resources available at TVET colleges across various provinces to further understand if there are any particular provincial gaps.

Key Findings

- It was noted that there appears to be room for improvement as it pertains to the capacity of lecturers. Employers noted that lecturers appear to lack specific industry knowledge, which may be as a result of limited exposure to the industry and a lack of engagement between TVET lecturers and organisations in the industry. It was further noted that there is room to improve in terms of ensuring lecturers receive sufficient training on the latest developments in the industry.
- Employers noted that TVET colleges appear to lack sufficient resources, including lecturers, training facilities and equipment, which impacts their ability to provide adequate training.

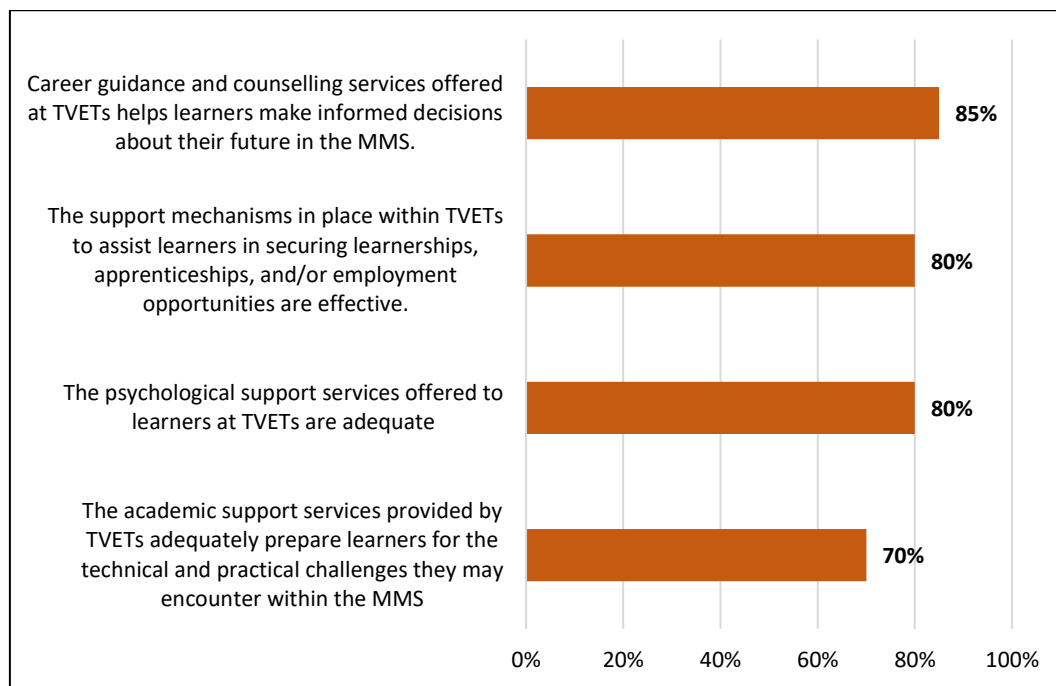
6.5 Learner Support

Learner support within TVET colleges is a crucial component in ensuring the success and employability of students. In South Africa, where the demand for skilled labour is

high and the need to address unemployment is pressing, the effectiveness of learner support mechanisms within TVET institutions is of paramount importance. Learner support encompasses a range of services and interventions aimed at facilitating students' academic, personal, and professional development, and may include workshops or seminars designed to enhance the job-seeking skills of learners as well as career counselling and academic advising.

The employer perceptions of the support offered to learners within TVET colleges are shown below.

Figure 6-12: Employer Perceptions of TVET Learner Support



Source: MQA TVET Perception Survey, 2024

As can be seen above, overall, employers perceive the support provided to learners through the TVET colleges fairly favourably. 85% of employers were of the view that the career guidance and counselling services offered at TVET colleges help learners make informed decisions about their future within the MMS. Furthermore, 80% of employers indicated that the support mechanisms that are in place within TVETs in order to assist learners in securing learnerships, apprenticeships and employment opportunities are effective.

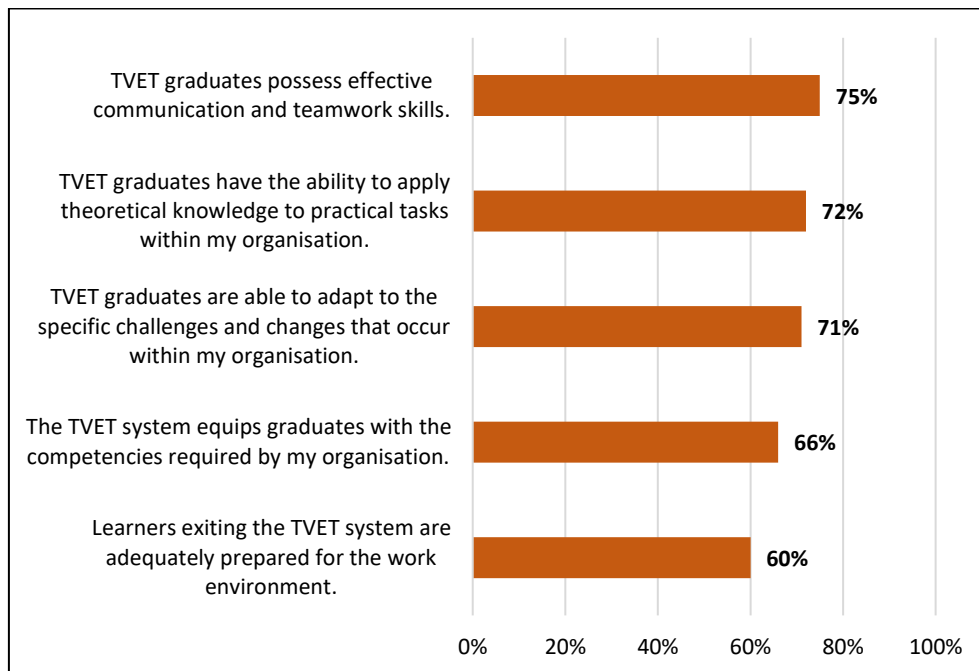
Positive Practices

- Employers perceive TVET learner support favourably, citing that career guidance and counselling services offered at TVETs helps learners make informed decisions about their future in the MMS.

6.6 Quality of TVET College Graduates

This section provides an overview of employer perceptions regarding the quality of TVET college graduates in terms of the knowledge, skills, and competencies of said graduates. To obtain an overall indication of employer perceptions regarding the quality of TVET graduates, employers were requested to indicate the extent to which they agree with several statements related to the quality of TVET graduates. The results are shown below.

Figure 6-13: Employer Perceptions of the Quality of TVET Graduates



Source: MQA TVET Perception Survey, 2024

As can be seen, 75% of employers agreed that TVET possess effective communication and teamwork skills (i.e., 75%), with qualitative insight, as mentioned above indicating room for improvement in terms of equipping graduates with various soft skills. Furthermore, 72% agreed that TVET graduates can apply theoretical knowledge to practical tasks whilst 71% agreed that they are able to adapt to specific challenges and changes that occur within specific organisations.

Only 60% of MMS employers agreed that learners exiting the TVET system are adequately prepared for the working environment. This was corroborated by qualitative insights, with employers indicating that TVET graduates enter the workplace with a limited understanding of the work environment.

“TVET graduates arrive in the workplace with 30% or lower [in terms of] knowledge of the work environment.”

(MQA Employer Perception Survey, 2024)

Other employers echoed similar sentiments, noting that TVET graduates do not demonstrate an understanding of industry standards, which makes it difficult for these graduates to adjust to the work environment.

“TVET graduates do not show any understanding of the standards of the industry, [and so] it is very difficult for them to adapt to the working environment.”

(MQA Employer Perception Survey, 2024)

Similarly, 66% of employers indicated that the TVET system equips graduates with the competencies required by their organisation. The results suggest that, despite TVET colleges appearing to equip learners with the skills to apply theoretical knowledge to practical tasks to a certain extent (as indicated by the 72% of employers who agreed to this), there appears to be misalignment between what is taught within TVET colleges and the skills that are required within specific workplaces, for specific jobs. This was reflected in qualitative insights from employers who noted that TVET graduates appear to lack an understanding of the MMS, which impacts on their level of readiness for the workplace, and their ability to adapt to specific jobs within the sector.

“TVET graduates may have limited knowledge of the MMS including its structure, operations, and current trends. This can impact their ability to understand and adapt to the specific requirements of their jobs within the MMS.”

(MQA Employer Perception Survey, 2024)

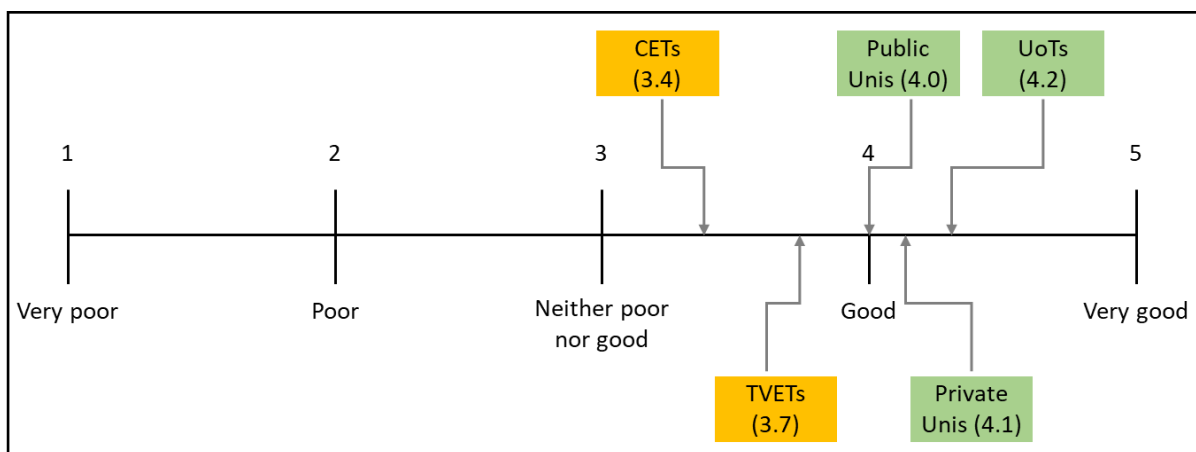
Other stakeholders indicated that more emphasis should be placed on facilitating exposure to the workplace to ensure that TVET graduates are equipped with relevant skills required by employers within specific operations.

“More time should be allocated to exposure and taking a closer look at the requirements and needs of specific operations so that TVET learners can have the right skills. If you produce diesel mechanics, they should be aware of the machines that are used in the operations and should learn how to maintain those machines.”

(MQA Employer Perception Survey, 2024)

In addition to the insight provided above, employers were also requested to rate the quality of TVET graduates against the quality of graduates from other institutions. This input helped to ‘benchmark’ the way in which TVET graduates are perceived in terms of quality when compared to graduates from other institutions. The results are shown below.

Figure 6-14: Perception of the Quality of Graduates per Institution



Source: MQA TVET Perception Survey, 2024

As can be seen above, graduates from universities of technology (“UoT”) received the highest rating (4.2 out of 5), indicating that employers perceive graduates from these institutions as being of a high quality. This was followed by graduates from both private universities (4.1 out of 5) and public universities (4.0 out of 5). On the other hand, the perceived quality of graduates from CETs (3.4 out of 5) and TVET colleges (3.7 out of 5) are relatively low when compared to the perceived quality of graduates from UoT’s and universities, indicating that there may be room to improve the employer perceptions of TVET graduates.

Analysis of the qualitative data suggests that one of the main factors that may be influencing how TVET graduates are perceived may be the manner in which the broader TVET system is perceived, with some employers indicating that TVET colleges are often viewed as secondary institutions when compared to other institutions such as universities and UoT’s. Employers further noted that TVET graduates are perceived

as not having the same level of skill when compared to graduates from other institutions, which is primarily due to how TVET colleges are more broadly perceived, as opposed to being a reflection of the actual skill level of a particular TVET graduate.

"I think we need to start on how it is marketed in the country [to learners leaving secondary education]. It is marketed in a way that, if you do not meet the criteria to get into a university or university of technology, then you go to [a TVET college]. So, it is perceived as a place for people who do not meet the criteria to be at universities or universities of technology and it is not marketed as the first place you need to go [once you leave school]. I think people [within the industry] see TVET colleges as a place where, as much as learning takes place, these colleges are not as resourced as they are supposed to be. For example, if a learner was to come in as an electrical engineer, and if you were to tell them to assemble a circuit from scratch, I think it is perceived that a learner from a TVET college would struggle because the perception is that these institutions are not as resourced as they are supposed to be."

(Employer Interview 12, Services Incidental to Mining, 2024)

While it is important to understand the perceptions of the quality of TVET graduates at an overall level, it is equally important to consider whether there are differences in perceptions across organisations of different sizes in order to formulate targeted interventions aimed at enhancing employer perceptions of the quality of TVET graduates. As such, a lower-level analysis was conducted which sought to understand differences in perceptions of the quality of TVET graduates across organisations of different sizes. These results are shown below.

Table 6-7: Perception of the Quality of Graduates per Institution (Organisation Size Breakdown)

	Small	Medium	Large
TVET Colleges	3.9	3.8	3.5
Community and Education Training Centres	3.4	3.7	3.3
Public Universities	3.8	4.1	4.0
Private Universities	3.9	4.2	4.2
Universities of Technology	3.9	4.2	4.3

Source: MQA TVET Perception Survey, 2024

As can be seen, for TVET colleges, the results are fairly consistent across organisations of different sizes in terms of the perceptions of the overall quality of graduates. However, there does appear to be slightly less favourable perceptions of TVET graduates amongst large employers (i.e., 3.5 out of 5), indicating room for

improvement in this regard. Similar trends were noted for CET colleges, with large employers perceiving graduates from these institutions slightly less favourably. Interestingly, small employers appear to have similar perceptions of the quality of graduates from all the listed institutions, with these employers indicating that the quality of TVET graduates (i.e., 3.9 out of 5) is on par with both private universities and UoTs. It also appears that the differences in employers' perceptions in terms of the quality of graduates from TVET colleges compared to other institutions becomes more apparent as the organisation increases in size. As can be seen, medium sized employers rated the quality of TVET graduates (i.e., 3.8 out of 5) as being lower than graduates from public universities (i.e., 4.1 out of 5), private universities (i.e., 4.2 out of 5) and UoTs (i.e., 4.2 out of 5). There were greater disparities in terms of perceptions of the quality of graduates from different institutions amongst large employers, with these employers perceiving the quality of UoT graduates (i.e., 4.3 out of 5), private university graduates (i.e., 4.2 out of 5) and public university graduates (4.0 out of 5) as being higher than the quality of TVET graduates (3.5 out of 5).

In addition to the above, a lower-level analysis was conducted to determine whether there were differences in perceptions of TVET graduates across different provinces. These results are shown below.

Table 6-8: Perception of the Quality of Graduates per Institution (Provincial Breakdown)

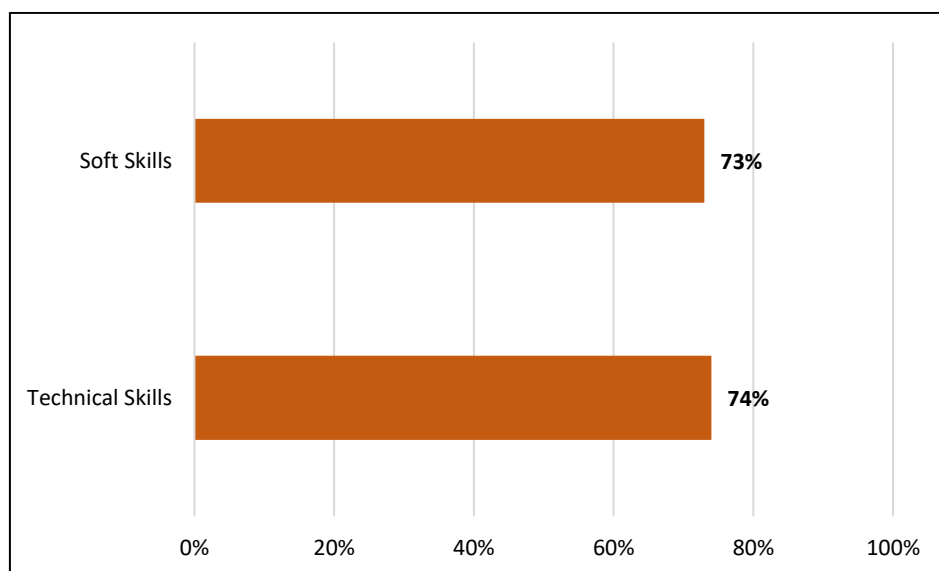
	E C	F S	G P	KZ N	L P	M P	N W	N C	W C
TVET Colleges	3, 5	4, 0	3, 8	3,0	3, 7	3, 8	3,2	4, 1	3,0
Community and Education Training Centres	3, 0	4, 0	3, 4	3,0	3, 1	3, 7	2,9	3, 8	3,7
Public Universities	4, 0	4, 0	4, 1	3,5	3, 7	4, 3	3,9	3, 8	3,6
Private Universities	4, 0	5, 0	4, 0	4,0	4, 0	4, 4	4,2	4, 0	3,5
Universities of Technology	4, 5	4, 0	4, 2	4,3	4, 1	4, 5	4,1	4, 0	3,4

Source: MQA TVET Perception Survey, 2024

As can be seen above, across most provinces, TVET college graduates are perceived less favourably when compared to their counterparts from both public and private universities as well as UoTs. Further to the above, it appears that employers from KZN and Western Cape perceive the quality of graduates from TVET colleges (i.e., 3.0 out of 5) as being lower when compared to the perceptions of TVET graduates from employers located within other provinces. On the other hand, the only provinces where employers had relatively positive perceptions of TVET graduates (as compared to graduates from public and private universities and UoTs) are the Free State (i.e., 4.0 out of 5) and the Northern Cape (4.1 out of 5). This is perhaps indicative that TVET colleges within these provinces are producing TVET graduates of a high quality.

To add more nuance to employer insights regarding the overall quality of TVET graduates, employers were asked to indicate whether they believed that the skills that TVET graduates possess upon exiting the TVET system meet their expectations. These results are shown below.

Figure 6-15: Extent to which Soft and Technical Skills meet Employer Expectations



Source: MQA TVET Perception Survey, 2024

As can be seen, a 73% of employers agreed that the soft skills that TVET graduates possess upon leaving the TVET system meet their expectations, whilst 74% agreed the same with regard to technical skills. While this indicates a fairly positive perception

of the skills that TVET graduates possess, insights from qualitative data which suggest that there may still be room for improvement in terms of equipping TVET graduates with specific types of ‘social’ or soft skills, such as leadership and mentorship skills.

“The technical skills [that TVET graduates have] are good. But one thing I have picked up is that there is no exposure in terms of leadership skills and other social skills. These skills are not present like they would be in university students [and it is because] TVET students do not get exposure to these things. It is important that they get exposure to these things, especially later in their career when they become senior artisans where they will be doing skills transfer [to new artisans]. So, it is important for them to have the right skills when it comes to mentorship for example.”

(Employer Interview 11, CLAS, 2024)

These sentiments were echoed by other employers, who noted that TVET graduates need to learn skills related to engaging with and managing other employees within the workplace.

“I think there is a lot more that [TVET colleges] could cover on soft skills, I think with the experience I have had, [TVET graduates] need to learn how to manage and deal with people a lot more. So, more focus on soft skills, in addition to technical skills. When I look at artisans, they work very well with the tools, but some of them may not work so well with people, and unfortunately you have all different types of people [within the workplace], and it can affect the whole workplace environment.”

(Employer Interview 5, CLAS, 2024)

Furthermore, other employers within the sector noted that TVET graduates need to further develop their communication and leadership skills.

“There are soft skills that we still need to develop when TVET graduates come into the organisation. When it comes to communication and leadership, universities graduates come first, because the manner in which they do things at TVETs is different when compared to universities. [At TVET colleges] it is more about what you do physically, and not so much about communicating with and managing the people within the workplace.”

(Employer Interview 14, Coal Mining, 2024)

Other employers indicated that TVET graduates lack workplace readiness, administrative, and computer literacy skills, further noting that modules related to these skills should be made a compulsory component of TVET curriculum.

“[Key areas for improvement for TVET graduates are their] workplace readiness and basic administrative skills along with computer training. These must be compulsory modules with a minimum of 80% pass rate. Companies cannot afford to hire workers who can't use a computer.”

(Employer Survey, 2024)

Hypothesis: The soft and technical skills that TVET graduates are equipped with through the TVET system do not significantly contribute to enhancing the productivity of MMS organisations.

Conclusion: It appears that the soft and technical skills that TVET graduates are equipped with through the TVET system meet the needs of the employers. However, there is room for improvement in terms of equipping TVET graduates with specific soft skills and ensuring greater alignment between what is taught within TVET colleges and the needs of industry, with certain employers noting that TVET graduates, despite being technically skilled, struggle to adapt to the workplace environment due to a limited understanding of the MMS.

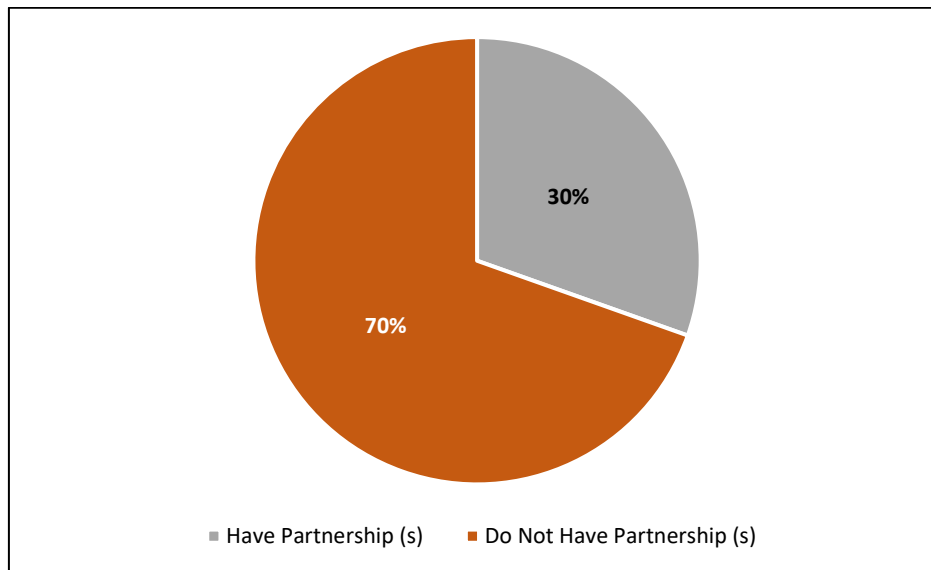
Key Findings

- The manner in which the TVET system is perceived by the industry appears to impact how TVET graduates are perceived, with employers noting that the TVET system is often considered to be inferior to other institutions, which impacts how graduates from TVET colleges are perceived once they enter the workplace.
- There appears to be room for improvement in terms of equipping TVET graduates with specific soft skills, such as those related to communication and leadership. Other skills gaps noted by employers through analysis of the qualitative data include administrative skills as well as computer literacy skills.
- There appears to be a need to ensure that TVET graduates get more exposure to industry, with certain employers noting that TVET graduates often display a limited understanding of the workplace environment, as well as a limited understanding of the broader MMS, which impacts on their ability to adjust to the requirements of specific jobs once they enter the workplace.

6.7 Partnerships with TVET Colleges

Understanding employer perceptions on the nature and function of partnerships between their organisations and TVET colleges as well as their perceptions of the partnerships between MQA and TVET colleges is important, particularly when considering how crucial practical and work-based learning components are to the overall effectiveness of a particular TVET course. In this sense, partnerships between industry and the TVET sector are critical to ensuring alignment between the skills provided by the TVET system and industry skills requirements. As such, employers were requested to indicate whether they are currently engaged in partnerships with TVET colleges. The results are shown below.

Figure 6-16: Percentage of Employers that have Partnerships with TVET Colleges



Source: MQA TVET Perception Survey, 2024

The results indicate that there is a large proportion of organisations (i.e., 70%) within the MMS that do not have partnerships with TVET colleges for WIL or other work-based learning programmes. This should therefore be noted as an area for improvement, especially when considering the importance of WIL programmes within the context of ensuring that learners receive sufficient exposure to the workplace. Several stakeholders noted that the MQA should be the entity responsible for facilitating these partnerships to ensure that the TVET sector is addressing employers' skills requirements.

"[To enhance the effectiveness of the TVET system] A partnership approach will be best as it will involve all parties and will require these parties to make an effort to enhance the effectiveness of the TVET system. The role of facilitating these partnerships between different parties and TVETs should be the relevant SETA' responsibility."

(Focus Group 2, 2024)

Other stakeholders noted that in order for the MQA to facilitate partnerships within the sector, the MQA should consider distributing information to employers within the sector in a more effective manner to ensure that employers are aware of the learners that are available for work placements, which may serve to facilitate linkages between industry and TVET colleges.

"[In terms of MQA facilitating partnerships] I think there is a lot more that could be done. You have all these great roadshows that they do, and these training sessions, but more information needs to go out to the employers. More information needs to go out in terms of dates that are the cut-off dates, in terms of the courses or the learners that are available for placements, in terms of the programs that they are running. I know they say it is on the website, but MQA needs to also understand that we do not always have time to go on to the website. If that information came to us via email saying, we have so many learners that have not been placed in these fields, is there anything you need for this year or next year, it would be great. Send out a mass email noting we have welders, admin people, finance, etc., say this is what we have available for the period, this is the cut-off, then we will know we need to apply."

(Employer Interview 5, CLAS, 2024)

Similar sentiments were echoed by other stakeholders who noted that the MQA could potentially play a bigger role in linking organisations within the sector to TVET colleges in order to ensure that employers are aware of the offerings within particular TVET colleges.

"The TVET college we engaged with is very close to our one operation. Our approach is to uplift our community first and because they are in our community, we approached them ourselves. I do think that the MQA can play a bigger role in linking up organisations with relevant training providers, including TVET colleges. They should make sure there is a knowledge and understanding of what qualifications can be obtained and where. There is scope for better communication and engagement from the MQA."

(Employer Interview 7, Other Mining, 2024)

Other employers indicated that the MQA should facilitate formal introductions between TVET colleges and organisations within the sector, given the challenges that TVET colleges may face when attempting to engage with organisations within the sector.

"I think MQA can facilitate formal introductions between TVET colleges and private businesses because it is a little bit difficult for the TVETs to knock on businesses doors, because people do not pay attention, so MQA could facilitate this."

(Employer Interview 15, Gold Mining, 2024)

In terms of the 30% of employers who responded to the survey who do have partnerships with TVET colleges, it was noted that the nature of these partnerships entails employers placing employees and community members at TVET colleges to enable them to enter learnership opportunities within the organisation, employers welcoming TVET learners into their workplace for WIL programmes, as well as employers providing support to TVET lecturers in the form of training and industry exposure.

“Our employees and community members are placed at the TVET colleges to obtain minimum requirements to enable them to enter into learnerships available within our organisation.”

(MQA Employer Perception Survey, 2024)

“TVET college learners come to our organisation for practical training at the mine.”

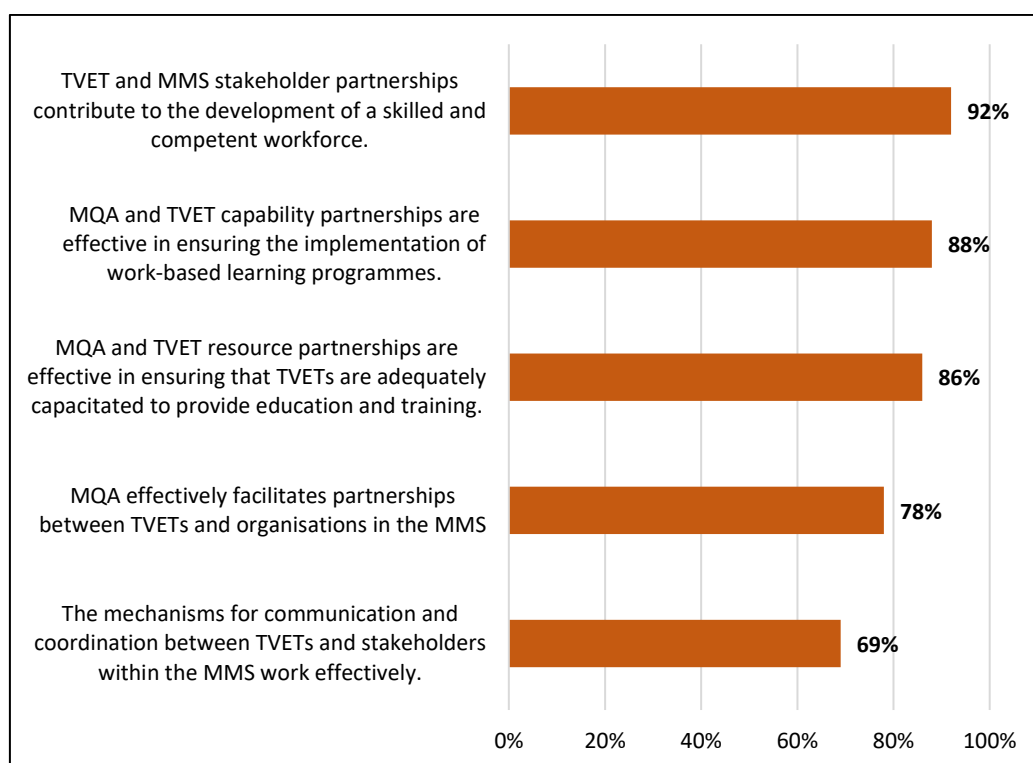
(MQA Employer Perception Survey, 2024)

“[The nature of the partnership between my organisation and the TVET college is that] we offer training and industry exposure to TVET lecturers.”

(MQA Employer Perception Survey, 2024)

In order to add more depth in terms of understanding employer perceptions of partnerships between TVET colleges and industry, employers were asked to indicate the extent to which they agree with various statements related to the effectiveness of the existing partnerships between TVET colleges and industry. These results are shown below.

Figure 6-17: Employer Perceptions on Partnerships with TVET Colleges



Source: MQA TVET Perception Survey, 2024

As can be seen, 92% of employers agreed that TVET and MMS stakeholder partnerships contribute to the development of a skilled and competent workforce.

Furthermore, there appear to be positive perceptions of the effectiveness of partnerships between MQA and TVET colleges in terms of ensuring the implementation of work-based learning programmes, with 88% of employers agreeing to this statement.

Despite the high scores achieved in terms of the existing partnerships between TVET colleges and MMS stakeholders, the results achieved for whether the mechanisms for communication and coordination between TVET colleges and employers are effective scored less favourably, with only 69% of employers agreeing to this statement. This is perhaps reflective of the fact that, whilst existing partnerships between TVET colleges and the MMS are effective, there is a need for more partnerships to be established, which may serve to strengthen employer perceptions on the existing mechanisms for communication and coordination within the sector.

The need for more effective mechanisms for communication and coordination was reflected in the qualitative input gathered from employers, with certain employers citing the need for more regional engagements between TVET colleges and employers to ensure that learners can be placed within workplaces, noting that the forums through which said engagement ought to occur are not active.

“There needs to be more engagement in regions between TVET colleges and employers who are accredited as training providers or who have approved workplaces for WIL. At the moment, such forums or advisory committees are not active. This will provide input from the MMS and provide TVET graduates with access to workplaces.”

(MQA Employer Perception Survey, 2024)

Other stakeholders echoed similar sentiments, noting that there appears to be a lack of cooperation between employers and TVET colleges within specific regions.

“Local TVET colleges do not work hand in glove with local businesses. If you want a particular course and they do not offer that course, they want the employer to carry 100% of the costs.”

(MQA Employer Perception Survey, 2024)

Hypothesis: The partnerships between government (e.g. the MQA), industry, and TVET colleges contribute to the relevance of the TVET system and promote the development of a workforce that is equipped with relevant skills that align to the requirements of the MMS.

Conclusion: It appears that the current partnerships between MQA and TVET colleges are perceived to contribute to the relevance of the TVET system and promote the development of a workforce that is equipped with the relevant skills that align to MMS requirements.

Hypothesis: There is currently not sufficient collaboration between government, industry, and TVET colleges.

Conclusion: It appears that there is not sufficient collaboration between government, industry, and TVET colleges, which is evidenced by the large number of employers who cited the need for greater levels of engagement between industry and TVET colleges.

Positive Practices

- Employers appear to have positive perceptions of the existing partnerships between TVET colleges and industry, noting that these partnerships contribute to a skilled and competent workforce.

Key Findings

- There appears to be a need to establish more partnerships between TVET colleges and industry, as evidenced by the 70% of employers who indicated that they currently do not have partnerships with TVET colleges.
- There appears to be room for improvement with regard to improving the effectiveness of the mechanisms that are currently in place to ensure communication and coordination between TVET colleges and employers within the MMS. Several employers cited the need for greater engagement between industry and TVET colleges to ensure that there is alignment between what is required within the industry and what is taught at TVET colleges.
- Employers are of the view that the MQA could do more to facilitate partnerships between TVET colleges and industry, suggesting that the MQA increase communication pertaining to the learners that are available for placements in workplaces across the industry and disseminating information on the qualifications that are available through the TVET system, and where these qualifications can be obtained. Furthermore, employers suggested that the MQA consider facilitating formal introductions between TVET colleges and private businesses, given that TVET colleges often face challenges when attempting to engage with businesses.

7 Key Findings

The table below provides an overview of the key findings and positive practices emerging from the Project.

Table 7-1: Key Findings and Positive Practices

#	Focus Area	Finding
1	Positive Practices	- Employers perceive TVET learner support favourably, citing that career guidance and counselling services offered at TVETs helps learners make informed decisions about their future in the MMS. - Employers appear to have positive perceptions of the existing partnerships between TVET colleges and industry, noting that these partnerships contribute to a skilled and competent workforce.
2	TVET Governance	There appears to be minimal employer representation on TVET college councils, which may be contributing to a lack of alignment between the needs of the sector and the offerings of TVET colleges.
3	TVET Curriculum	- Further partnerships and collaboration between employers and TVETs may be required as it pertains to the development of TVET curriculum, with just more than half of employers agreeing that TVETs consider input from employers and update course curricula accordingly or that MMS employers are provided with opportunities to provide input on TVET curriculum development. - There appears to be room for improvement in terms of TVET colleges offering courses related to the 4IR or the latest developments in the industry, with a demand for more

#	Focus Area	Finding
		relevant training to be provided by TVETs, such as courses related to robotics, being noted. Employers identified practical experience as a skills gap in the training provided by TVETs, noting that this may be due to a lack of practical knowledge amongst TVET lecturers.
4	Programme Delivery	Programme delivery is perceived as mostly positive by employers, however qualitative input highlighted areas for improvement including the rigidity of the programme delivery for working individuals as well as the potential need for enhanced engagement between TVETs and industry to allow employers the opportunity to provide input on programme delivery through sponsorship or partnerships.
5	TVET and Lecturer Capacity	- It was noted that there appears to be room for improvement as it pertains to the capacity of lecturers. Employers noted that lecturers appear to lack specific industry knowledge, which may be as a result of limited exposure to the industry and a lack of engagement between TVET lecturers and organisations in the industry. It was further noted that there is room to improve in terms of ensuring lecturers receive sufficient training on the latest developments in the industry. - Employers noted that TVET colleges appear to lack sufficient resources, including lecturers, training facilities and equipment, which impacts their ability to provide adequate training.
6	Quality of TVET	The manner in which the TVET system is perceived by the industry appears to impact how TVET graduates are perceived, with employers noting that the TVET system is often considered to be inferior to other institutions, which

#	Focus Area	Finding
	College Graduates	impacts how graduates from TVET colleges are perceived once they enter the workplace. • There appears to be room for improvement in terms of equipping TVET graduates with specific soft skills, such as those related to communication and leadership. Other skills gaps noted by employers through analysis of the qualitative data include administrative skills as well as computer literacy skills. • There appears to be a need to ensure that TVET graduates get more exposure to industry, with certain employers noting that TVET graduates often display a limited understanding of the workplace environment, as well as a limited understanding of the broader MMS, which impacts on their ability to adjust to the requirements of specific jobs once they enter the workplace.
7	Partnerships with TVET Colleges	• There appears to be a need to establish more partnerships between TVET colleges and industry, as evidenced by the 70% of employers who indicated that they currently do not have partnerships with TVET colleges. • There appears to be room for improvement with regard to improving the effectiveness of the mechanisms that are currently in place to ensure communication and coordination between TVET colleges and employers within the MMS. Several employers cited the need for greater engagement between industry and TVET colleges to ensure that there is alignment between what is required within the industry and what is taught at TVET colleges.

#	Focus Area	Finding
		Employers are of the view that the MQA could do more to facilitate partnerships between TVET colleges and industry, suggesting that the MQA increase communication pertaining to the learners that are available for placements in workplaces across the industry and disseminating information on the qualifications that are available through the TVET system, and where these qualifications can be obtained. Furthermore, employers suggested that the MQA consider facilitating formal introductions between TVET colleges and private businesses, given that TVET colleges often face challenges when attempting to engage with businesses.

8 Recommendations

The below provides a set of implementable recommendations, drafted in terms of the SMART criteria. We note that the degree of implementation of each recommendation will be dependent on the MQA's available budget and should be considered within this context. Furthermore, where applicable, the below recommendations should take into consideration the transition that TVETs are undergoing from unit standard based learning to occupational qualifications.

8.1 Recommendation 1: Establish Provincial Engagement Forums for Curriculum Input

To enhance alignment between workplace skills requirements and the TVET curriculum, and to ensure that employers within the sector have an active role to play in terms of guiding TVET colleges regarding what the industry requires from a skills perspective, the MQA should facilitate the establishment of provincial engagement forums aimed at supplying industry with a platform to provide input on TVET curriculum, and other related matters, such as programme delivery. These forums should include representatives from TVET colleges within a specific province (i.e., representatives from TVET college councils and academic boards; representation may be limited to those TVET colleges that offer MMS related courses), representatives from mining organisations within the province (i.e., skills development facilitators, human resource and development practitioners, heads of operations, technical experts), and relevant representatives from the QCTO, DHET, and Umalusi. The purpose of these forums would be to gather feedback from industry on the TVET curriculum. Feedback may be gathered in the form of structured discussions, focus groups, and brainstorming sessions. The forums will also provide TVET colleges, DHET, QCTO and Umalusi with a platform to indicate whether suggestions from industry regarding updating the curriculum are practical and feasible. The input gathered from these forums should be documented and incorporated into course curricula for specific MMS related qualifications, where it is feasible to do so.

Activity:	Facilitate the establishment of provincial engagement forums aimed at supplying a platform through which employers can provide input on TVET curriculum. These forums should include
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	representatives from all relevant stakeholders within the TVET system and industry.
Frequency:	Annually, or more frequently (depending on MQA resources and budget and industry needs/trends)

8.2 Recommendation 2: Facilitate the Review and Redesign of the TVET Curriculum to Develop Soft Skills

To address the soft skills gaps identified by the Study, the MQA should consider engaging with TVET colleges and proposing that the existing TVET curriculum is reviewed to see where opportunities for learners to practice and develop their soft skills may be integrated. This review may be considered and aligned with the transition from the unit standard based learning to the occupational qualifications. The integration of soft skills training can be done through group projects, presentations, and teamwork exercises which may emphasise the development of communication, leadership, and teamwork skills. This is cognisant of the fact that there is no specific training for the development of soft skills, which necessitates the development of these skills through an integrated approach as part of technical training.

Activity:	Engage with TVET colleges to facilitate the review and potential redesigning of the curriculum to include opportunities for learners to practice and develop their soft skills.
Frequency:	Review and redesigning of the curriculum to occur within the next 1 to 2 years, to be updated in line with MMS trends on a biennial basis (i.e., once every 2 years).

8.3 Recommendation 3: Develop a Comprehensive Digital Platform to Link TVET Graduates with Employers

To ensure that learners get more practical exposure to workplaces within the MMS, the MQA should consider issuing a Terms of Reference for the development of a digital platform, specific to the MMS, that may serve as a central access point for employers and TVET graduates. The platform should be managed and maintained by the MQA and should be aimed at linking graduates and employers within the MMS by providing learners with access to WIL opportunities as well as employment opportunities. This platform should allow TVET graduates to register and create a profile outlining their personal details, location, qualifications (or the course upon which they are currently

registered), experience (if any), and skills and should also allow employers to access this database containing details of TVET graduates. The intention of this platform will be to facilitate engagement between employers and TVET students. If an employer, for example, requires ten TVET graduates who are based in Gauteng, who have no work experience and who are within a specific age, the employer will be able to apply a filter and find the exact graduates that meet this criterion. This may serve to ensure that TVET graduates receive sufficient practical exposure to MMS workplaces and may also serve as a bridge to employment for TVET graduates. This may also serve to ensure that there is a consistent pipeline of skilled workers being fed into the MMS. To ensure that the maximum number of learners are registered on the platform, TVET colleges should ensure that learners are registered on the platform as part of course requirements (specifically for those courses that relate to the MMS).

Activity: Draft and issue a Terms of Reference for the development of a comprehensive digital platform aimed at linking TVET graduates, TVET learners, and employers.

Frequency/Timeframe: To be drafted within the next year.

The MQA may also consider, as a short-term intervention, increasing communication through its current communication and engagement channels (such as newsletters, email, online portals, social media platforms, and industry forums) to proactively disseminate information to employers regarding available learners for placements as well as the qualifications offered by TVET colleges. This may ensure facilitate the placement of learners for on-the-job training and may also ensure that employers are aware of the relevant qualifications or courses that TVET colleges offer that their employees could participate in. As an alternative, the MQA may consider establishing dedicated communication channels, such as a 'TVET newsletter', to provide employers with timely updates and regular information on matters related to the TVET system, such as, for example, the number of learners available for placements at workplaces.

Activity: Increase communication through existing communication platforms regarding information that is relevant to employers in terms of the TVET system. Further to this, consider establishing dedicated communication platforms

to provide employers with timely updates and regular information on matters related to the TVET system.

Frequency/Timeframe: Ongoing.

8.4 Recommendation 4: Conduct a Review of the Resources Available to TVET Colleges and Challenges Faced

To ensure that TVET colleges have relevant and up-to-date equipment and resources to provide training, the MQA should commission a study aimed at conducting a review of the resources and equipment that TVET colleges currently have versus those that are required by TVET colleges to effectively provide relevant practical training. The purpose this review would be to understand any gaps that may exist between what TVET colleges currently have in terms of equipment and resources and what they require to provide relevant practical training, and to identify whether the current level of support provided to the TVET sector in terms of funding (or other forms of support) for equipment and resources is adequate. This review should be used as the base to ensure that TVET colleges are well capacitated in terms of equipment and resources to be able to provide relevant practical training, particularly as it pertains to the MMS. The study should produce recommendations aimed at understanding how the level of support (particularly support in terms of the provision of equipment and resources) provided to the TVET sector may be enhanced, if required.

Activity: Commission a study to conduct a review of the resources (financial, workforce and skills) and equipment necessary for TVET colleges to deliver relevant practical training. The findings emerging from this study should be used to evaluate and revise existing support provided to TVET colleges (particularly as it pertains to the provision of equipment and resources).

Frequency/Timeframe: Research to be conducted within the next 1 to 2 years

8.5 Recommendation 5: Develop a Marketing Campaign aimed at Destigmatising TVET Educational Pathways

The MQA should consider developing a marketing campaign specifically focused on destigmatising TVET educational pathways amongst employers as well as learners leaving school. The marketing campaign should entail showcasing TVET graduate

success stories on the MQA's communication and digital platforms, conducting roadshows at high schools to promote TVET colleges as institutions of choice, and increasing awareness of the TVET system, the nature of qualifications available through the TVET system, as well as the potential career pathways that become available to an individual who studies through the TVET system.

Activity: Develop and implement a marketing campaign aimed at destigmatising TVET educational pathways.

Frequency/Timeframe: Campaign to be developed within the next year, and to be implemented in the next 1 to 2 years. Campaign to be reviewed/revised annually.

8.6 Recommendation 6: Continue Provision of Funding for Lecturer Development and Industry Exposure Programmes

To address the issue of TVET lecturers lacking relevant industry experience, the MQA should, firstly, continue prioritising the provision of funding for lecturer development programmes (such as bursaries and exposure to industry programmes). Secondly, the MQA should consider facilitating linkages between industry experts and TVET lecturers by introducing funding for 'mentorship' programmes whereby a TVET lecturer or multiple TVET lecturers are assigned to a particular industry expert within a specific organisation for a specified period in order to gain industry experience and learn more about the industry. The nature of this mentorship programme could also involve the industry expert spending time in the classroom as a 'guest lecturer' to help provide learners with insight on how specific skills can be applied within the workplace, should this be feasible.

Activity:	Continue providing funding for lecturer development and industry exposure programmes; consider facilitating linkages between TVET lecturers and industry experts through the provisioning of additional funding for mentorship programmes between TVET lecturers and industry experts.
Frequency:	Annually, in line with MQA's discretionary grant funding processes

8.7 Recommendation 7: Develop a Public-Private Partnership Building Strategy

To encourage the establishment of more partnerships between TVET colleges and the industry, the MQA should consider developing a public-private partnership building strategy⁹ which may provide the MQA with guidance in terms of how to facilitate partnerships between industry and TVET colleges. The strategy should include guidelines in terms of obtaining buy in from TVET colleges and employers within the industry to enter into partnerships, the nature and purpose of the prospective partnerships between TVET colleges and industry, guidelines on potential incentives for both TVET colleges and employers for the establishment of partnerships, as well as identifying the tools required to enable linkages between what organisations within the sector require and what TVET colleges offer, within specific regions (an example of a specific tool that could be used, if and when developed, is the digital platform, outlined in recommendation 3). As part of the strategy, the MQA could also consider funding joint projects between employers and TVET colleges, which may serve to incentivise these stakeholders to enter partnerships. For example, the MQA could look to provide funding for learning materials for a particular project, or a specific piece of equipment.

An example of a relevant public-private partnership that is set to launch is the partnership established between the Manufacturing, Engineering and Related Services Sector Education and Training Authority (“merSETA”), Ekurhuleni East TVET college, and Festo (a private sector organisation) which is aimed at establishing a 4IR lab at Ekurhuleni East TVET college. The MQA could therefore look to establish similar partnerships with private sector organisations and TVET colleges to address MMS related skills needs. These partnerships could take the form of, for example, organisations allowing TVET learners from a specific TVET college within the same region (who are doing a relevant MMS related course) to gain practical experience in the form of operating/maintaining relevant equipment.

⁹ It is noted that the MQA currently has a partnership management framework which serves as a high-level strategy document that provides general guidance in terms of the manner in which the MQA intends to work with others key stakeholders. The strategy proposed above is distinct from this as it is aimed at providing *specific* guidance to the MQA on how to facilitate partnerships between TVET colleges and employers in the MMS. Notwithstanding the above, should the MQA choose to develop the proposed strategy, this strategy should align to the principles of the partnership management framework.

Further to the above, there are certain insights for the MQA to consider that have been sourced through desk-based research focused on identifying best practices. This research revealed that other countries, such as Germany, have adopted a dual system approach to vocational training which prioritises the training of individuals through both classroom-based learning as well as training in a real-life work environment. As part of the dual system, cooperation between small and medium sized companies and publicly funded vocational schools is regulated by law. When undergoing the training, learners spend approximately 70% of their time in a training company, whilst 30% is spent at a vocational school. This system allows trainees to learn occupations through both theory and simulation, whilst employers gain access to skilled workers, thus promoting economic development (Federal Ministry of Education and Research, 2015). The MQA could therefore look to develop guidelines aimed at facilitating similar arrangements within the South African context if it is feasible to do so.

Activity:	Develop a public-private partnership building strategy, aimed at providing guidance to the MQA in terms of how partnerships between industry and TVET colleges may be established.
Frequency:	Strategy to be developed within the next 1 to 2 years.

To encourage the establishment of partnerships in the short term, the MQA should consider facilitating introductions between TVET colleges and organisations within the sector (perhaps per province or per region). This could be done by the MQA hosting networking events, business ‘matchmaking’ forums, or industry specific workshops where representatives from TVET colleges and businesses can connect and explore potential collaboration opportunities.

Activity:	Host networking events, business matchmaking forums, or industry specific workshops to facilitate linkages between industry and TVET colleges.
Frequency:	Collaboration events to occur at least once every six months

8.8 Recommendation 8: Conduct a Review of the Existing Mechanisms for Collaboration between Industry and TVET Colleges

The MQA should consider conducting a review of the existing mechanisms that are in place (such as community forums, community outreach programmes etc.) to facilitate collaboration and communication between TVET colleges and organisations within the

MMS. The review should identify areas for improvement in terms of enhancing the effectiveness of these mechanisms and should produce recommendations aimed at achieving same.

Activity:	Conduct a review of the existing mechanisms that are in place to facilitate collaboration and communication between TVET colleges and industry to identify areas for improvement.
Frequency:	Review to be conducted within the next year.

9 Conclusion

The comprehensive exploration of employer perceptions regarding various aspects of the TVET system in relation to the MMS offers valuable insights into the critical facets of the TVET system that directly impact the alignment between educational outcomes and industry requirements. By examining employers' perceptions across various areas, such as TVET governance, curriculum relevance, programme delivery, TVET and lecturer capacity, learner support, quality of graduates and the partnership of TVET colleges, this Study provides a comprehensive understanding of the strengths, weaknesses, and areas for improvement within the TVET system in relation to the MMS.

In terms of TVET governance, the findings revealed both positive aspects and areas for enhancement. While most employers acknowledged the effectiveness of TVET governance structures in ensuring management, coordination, and oversight, there appears to be room for improvement regarding increasing employer representation on TVET college councils to better align educational offerings with industry requirements.

Regarding TVET curriculum, similar trends were noted in terms of increasing the level of involvement of the MMS in curriculum development. While employers appeared to consider the TVET curriculum as being effective in developing a skilled workforce, there appears to be room for improvement in terms of enhancing collaboration between TVET colleges and employers within the MMS, enhancing the responsiveness of the TVET curriculum to industry needs, and updating TVET curricula to address the latest developments (such as, for example, developments related to 4IR). In terms of employer perceptions of the qualifications offered by TVET colleges, employer perceptions were generally positive, with a majority expressing satisfaction with the overall quality of qualifications offered by TVET colleges. Regarding mismatches between the skills taught within TVET colleges and job requirements, most employers did not appear to observe any mismatches. However, the employers who did note mismatches indicated that TVET graduates appear to lack practical skills and knowledge, which employers attributed to the lack of practical, industry specific knowledge amongst TVET lecturers. In terms of programme delivery within TVET colleges, this was perceived as mostly positive by employers. However, there were certain employers who noted that there is room for improvement in terms of the

flexibility of the programmes offered within TVET colleges, further noting that the rigidity of programme delivery does not accommodate working individuals who have to balance work and study commitments.

The Study also explored employer perceptions of the capacity of TVET lecturers as well as TVET colleges. Analysis of these results revealed that there appears to be room for improvement in terms of the capacity of lecturers, with employers noting that lecturers appear to lack specific industry knowledge, which may be due to limited exposure to the industry as well as a lack of engagement between TVET lecturers and organisations within the industry. The results also revealed that employers are of the view that TVET lecturers do not receive sufficient training on the latest developments within the industry, indicating room for improvement in this regard. In terms of the capacity of TVET colleges to provide training, employers noted that TVET colleges appear to lack sufficient resources, including adequately experience lecturers, training facilities and equipment, which impacts on their ability to provide relevant training that aligns with the needs of the MMS. These results indicate that there is room for improvement in terms of ensuring that TVET colleges are adequately capacitated from the perspective of human, financial, and technical resources. Despite the areas for improvement noted, the findings revealed that employers do perceive TVET learner support favourably, noting that career guidance and counselling services that are offered at TVET colleges assists learners to make informed decisions about their future in the MMS.

The perceptions of TVET graduates' quality and skills amongst employers revealed that there appear to be disparities between how TVET graduates are perceived as compared to graduates from other institutions. Employers suggested that this may be due to the manner in which the TVET system is perceived in a general sense (i.e., as a secondary institution, or as a destination for learners who did not meet the minimum requirements for university), which has an impact on how TVET graduates are perceived once they enter the workplace. In terms of perceptions of the skills that TVET graduates possess, while there were positive perceptions of certain aspects of TVET graduates' skills, such as technical proficiency, there was still a perceived gap in soft skills such as communication and leadership. Several employers also indicated that TVET graduates are not adequately prepared for the workplace upon exiting the TVET

system. This highlighted the importance of providing more opportunities for practical experience and exposure to real-world work environments.

Finally, in terms of partnerships between TVET colleges and the industry, there appears to be a need to establish more partnerships, with only a fraction of employers indicating that they have existing partnerships with TVET colleges. There also appears to room for improvement as it pertains to improving the effectiveness of the mechanisms that are currently in place to ensure communication and coordination between TVET colleges and employers within the MMS, with several employers noting the negative impact that the lack of effectiveness of these mechanisms have on ensuring that there is alignment between what is required within the industry and what is taught at TVET colleges. Regarding the establishment of more partnerships between TVET colleges and the industry, several employers noted that the MQA could do more to facilitate these partnerships, noting that TVET colleges often face challenges when attempting to engage with businesses within their respective geographies. This highlighted the importance of MQA's role in terms of facilitating engagement and collaboration between TVET colleges and the MMS.

Overall, the findings are clear in that there is room for improvement in terms of enhancing the level of collaboration between TVET colleges and industry, across various areas. The MQA, as custodians of skills development within the MMS, should therefore ensure that it recognises the importance of these findings, and takes meaningful steps towards addressing the challenges outlined in this report. It is envisioned that by addressing these challenges and facilitating linkages between TVET colleges and industry, that the MQA can play a meaningful role in enhancing the effectiveness of the TVET system in terms of providing a pipeline of sufficiently skilled workers to the MMS.

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