TVET Research Programme

TVET Research: Developing a Barometer for TVET Colleges

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Acronyms

AIDS	Acquired Immunodeficiency Syndrome
APP	Annual Performance Plan
CET	Continuing Education and Training
CHE	Council on Higher Education
CoS	Centres of Specialisation
DEL	Department of Employment and Labour
DHET	Department of Higher Education and Training
DPME	Department of Planning, Monitoring and Evaluation
FMPPI	Framework for Managing Programme Performance Information
GWMES	Government-wide M&E System
HC	Higher Certificate
HIV	Human Immunodeficiency Virus
HRD	Human Resource Development
IPSS	Institute for Post School Studies
ISCD	Information Systems Coordination Directorate
LED	Local Economic Development
MAS	Mzabalazo Advisory Services
M&E	Monitoring and Evaluation
MDGs	Millenium Development Goals
MVP	Minimum Viable Product
NCV	National Certificate Vocational
NEPF	National Evaluation Policy Framework
NSDP	National Skills Development Plan
NSF	National Skills Fund
NSFAS	National Student Financial Aid Scheme

OHID	Occupations in High Demand
PCASs	Policy Co-ordination and Advisory Services
PLP	Pre-Vocational Learning Programme
POPIA	Protection of Personal Information Act
PQM	Programme Qualification Mix
PSET	Post-School Education and Training
SA	South Africa
SADC	Southern African Development Community
SASQAF	South African Statistical Quality Assessment Framework
SETA	Sector Education and Training Authority
SSP	Sector Skills Plan
SSS	Student Support Services
Stats SA	Statistics South Africa
ToC	Theory of Change
TVET	Technical and Vocational Education and Training
TVETMIS	Technical and Vocational Education and Training Management Information System
USAf	Universities South Africa
WBL	Workplace Based Learning

1. Introduction

Despite multiple interventions to improve the quality and efficiency of Technical and Vocational Education and Training (TVET) colleges, colleges were still viewed as underperforming more than a decade into the democratic dispensation (Kraak & Paterson, 2016: 1). Although there have been some improvements, it is still widely acknowledged that there are some persistent areas of poor performance in colleges including low pass and throughput rates (Institute for Post School Studies (IPSS), 2020). South Africa has 50 public TVET colleges operating on about 364 campuses across the nine provinces. The colleges' mandate is derived from the Continuing Education and Training (CET) Act 16 of 2006 and statutory institutional structures comprise of the Council, the Academic Board, and the Students Representative Council, (DHET, 2016, page 13). In April 2015, the TVET colleges and Community Learning Centres migrated from the nine Provincial Departments of Education, and there were inconsistencies in college performance across colleges and across college campuses of the same college. The 50 public TVET colleges are diverse and emerge from different contexts. Over time there have been efforts to standardise the curriculum, systems, and processes and to regulate requirements for lecturing staff.

However there remain deep disparities both between the colleges as functioning organisations and between the different environments and socio-economic contexts within which they operate. There are differences in the perceived and actual performance of the colleges, and in the potential of the colleges to achieve an acknowledged and valued role in the supply of skills to their local economy. There are huge differences in the historical funding levels of the colleges, the economic base of the area they serve and the socio-economic conditions of the students. Ideally, the purpose of colleges is to offer a large variety of courses in response to the human resource requirements of a diversified economy, but they are mostly struggling to do this.

In the White Paper for Post-School Education and Training (PSET) (2013), the highest priority of the Department of Higher Education and Training (DHET) is to strengthen TVET colleges so that they become institutions of choice for a large proportion of school leavers. The White Paper envisages a TVET college sector which is much larger than the university sector through increasing enrolment. The White Paper also stresses that the growth of the sector should concurrently be accompanied by improving quality, efficiency and success. A huge aspect of strengthening the sector is using a data driven approach, where monitoring and performance data is used for sector improvement and strengthening. The TVET Barometer project which falls under the Evaluation of TVET Colleges theme of the TVET Research

programme is intended to contribute to this strengthening.

This report presents and discusses the TVET Barometer, demonstrating its efficacy by using data sourced from colleges. The report commences with a discussion of the situation on Monitoring and Evaluation (M&E) in TVET colleges currently and discusses how the Barometer can be used as a systemic measure of college performance in a way that enables a holistic understanding of performance as the sum total of diverse inputs, outputs and outcomes. The report presents the TVET Barometer as a Minimum Viable Product (MVP) that can further be developed and enhanced within DHET and the TVET sector.

2. Context

2.1 Significance of M&E in the TVET college system

Internationally and locally, the impetus for M&E is being driven largely by the demand for greater accountability of publicly funded organisations and institutions. Governments are increasingly called upon to be more transparent and accountable to the public, to demonstrate results emanating from their policies and actions, and demonstrate value for money (DHET), M&E Framework for PSET, 2021: 10).

As early as 1995, the White Paper on Transformation in the Public Service introduced the concepts of M&E where the purpose was for departments and provincial administrations to develop strategies designed to promote 'continuous improvement in the quantity and equity of service provision' (Goldman et al. 2014). South Africa introduced the Government-Wide M&E System (framework) (GWMES) in 2005, with the central purpose of effective executive decision-making in support of implementation, for informing evidence-based resource allocation and on-going policy refinement (Abrahams, 2015). This system was also motivated by the need to report progress against the Millennium Development Goals (MDGs), pressure from donors requiring systematic evaluation of projects and emerging international accountability doctrines such as the Paris Declaration (Cloete, 2009). The framework was later supported by the National Treasury's Framework for Managing Programme Performance Information (FMPPI) and the South African Statistical Quality Assessment Framework (SASQAF). In 2007, the initial GWMES proposal was revised and updated (Cloete, 2009). The management of the system was the responsibility of a Policy Co-ordination and Advisory Services (PCASs) Unit located in the Presidency. This system is currently governed by the

Department of Planning, Monitoring and Evaluation (DPME) established in 2010 and situated in the Presidency, with planning responsibility from 2014. A key initiative by the DPME to improve government performance was the introduction of an outcomes approach (Phillips, 2012).

In support of government's commitment to increase the use of evaluations, Cabinet approved a National Evaluation Policy Framework (NEPF) in November 2011. The NEPF provided the basis for a system of evaluations across government. The NEPF (Department of Planning, Monitoring and Evaluation, 2019) "seeks to ensure that credible and objective disaggregated evidence from evaluations is used in planning, budgeting, organisational improvement, policy review, as well as ongoing programme and project management to improve performance". While the Department DHET M&E Framework (DHET, 2020) acknowledges that M&E within the PSET system is currently fragmented, it presents a framework for enhanced coordination across the various units within the DHET. The integrated M&E system, predicated on an evidence-based philosophy, aspires to improve the quality of government decision-making and the quality of implementation, outcomes and impacts in South Africa (Abrahams, 2015).

Monitoring is an on-going process that is focused on the assessment of projects, programmes, and those day to-day activities and deliverables required for achievement and improving performance. Achievement and progress are tracked through data collection and reviews from time to time (M&E and Reporting Framework for TVET College Performance, 2015, page 6). M&E is a managerial function that provides managers, decision-makers and stakeholders with regular feedback and early indications of progress or lack thereof in the achievement of intended results, and should result in managers undertaking corrective action, based on the findings of monitoring exercises. Monitoring tracks changes in programme, project, or policy outcomes over time (Khan, 2012). Given that monitoring and performance reporting have been an integral part of the TVET sector for a very long time, it would not be amiss to ask why the sector has not witnessed the envisaged transformation. The answer could partly lie in the strength of monitoring and reporting, an aspect that the proposed barometer will address.

2.2 History of M&E within DHET

The first M&E Framework for the DHET was adopted in October 2013 (DHET M&E Framework for PSET, 2021). Since then, there have been many changes to the mandate and structures of the Department, which impacted on its M&E systems. The 2013 M&E Framework was revised in 2017 to consider new developments such as the function shift of TVET colleges and

Adult Education and Training Centres, the establishment of CET colleges and priorities identified in the White Paper for PSET. In February 2021 a further revision of the M&E Framework was approved by DHET. This update was intended to strengthen the M&E approaches, practices and systems being used in the DHET. It aimed to rationalise data collection processes and reporting requirements by providing a comprehensive indicator framework that would facilitate the identification of information needs. The intention was that all branches in the DHET would allocate resources to undertake M&E of programmes, policies, and projects. A useful key resource to strengthen M&E is an instrument with capabilities to evaluate performance holistically and to provide a comparison of performance across colleges and get a sector wide view of performance to address challenges at both system and college levels.

Thus, the aim of the TVET college Barometer is to put in place **an evidence-based performance M&E instrument that considers how each college is performing as well as how the sector is performing overall based on agreed dimensions and indicators**. The Barometer will draw on existing data to evaluate the efficacy of the TVET sector to provide information that can be used for improving the sector.

2.3 M&E in TVET colleges

M&E in TVET colleges is intricately linked to DHET strategic planning which permeates all the planning and reporting required of TVET colleges. There should also be alignment with broader labour market processes like the National Skills Development Plan (NSDP). The relationship between TVET college M&E and reporting and DHET and interventions is shown in Figure 1.[1]

[1] This useful diagram is drawn from 2015 when the turnaround strategy was still being implemented and when NSD III had not yet been replaced by NSDP 2030. The essence of the diagram is still applicable to date even though the mentioned two interventions have undergone some changes.

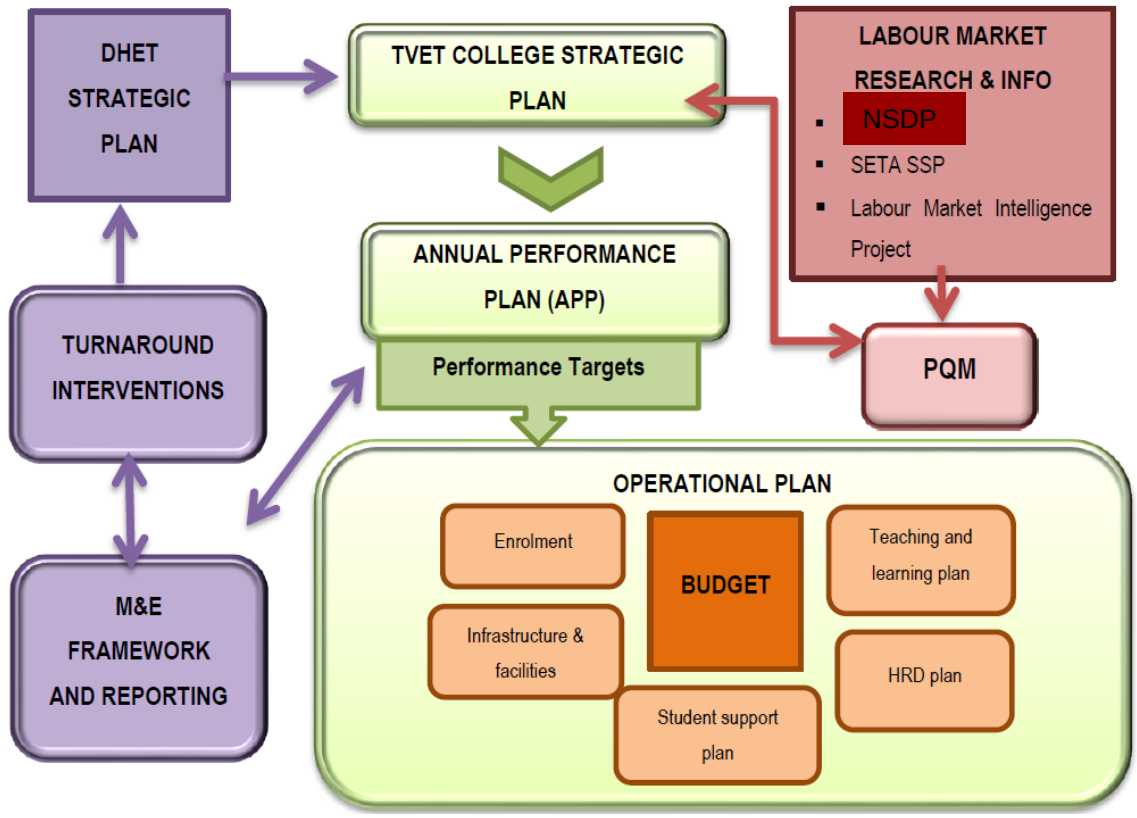

Figure 1: TVET M&E and Planning

Source: DHET, 2015 – *Developing Strategic, Annual and Operational Plans for TVET Colleges: Guidelines for 2016*[2]

Several documents inform TVET M&E including the strategic plan, annual performance plans, the PSET M&E Framework and the TVET College M&E Framework. TVET colleges report their performance on a quarterly basis to measure college progress towards the achievement of outputs and outcomes defined in the strategic plans. The Department (nationally and at regional level) is supposed to monitor such progress to provide support and intervention should colleges be performing poorly (National Report on TVET Colleges Performance, 2020).

3. Challenges with M&E within the public TVET sector

Despite acknowledging that M&E is necessary for system improvement, the reporting of TVET data is currently fragmented. Consequently, the collection, compilation and provision of

[2] In this diagram, APP stands for Annual Performance Plan, HRD stands for Human Resource Development, PQM stands for Programme Qualification Mix, SETA stands for Sector Education and Training Authority, and SSP stands for Sector Skills Plan

information is unsystematic, dispersed, unrelated, slow to reach decision-makers, often duplicated, sometimes inconsistent, and difficult to verify. One of the challenges, therefore, is to establish congruence between a national M&E system, and M&E processes at the different levels and components of the system to respond more effectively to challenges (DHET, 2021, p.19).

One of the challenges of M&E is directly related to the question of 'how can an M&E system do justice to all these intended results and still remain manageable?' Each M&E system is unique for each developmental intervention that it is ascribed to, this is because not all expectations and objectives will be the same for projects and programmes. Another challenge is specifically related to the evaluation of impacts and is about answering the question: 'What would have happened without the development intervention'? This question is crucial because it probes M&E practitioners to identify whether the results that are observed are due to the intervention or not.

4. What is a Barometer?

A barometer is a comprehensive analytic resource that is used to provide a comparative assessment of institutional performance, based on predefined dimensions and indicators. A barometer assesses whether outputs and outcomes are being met and provides an evidence base upon which decisions for corrective action for improvement can be taken. Examples of barometers in South Africa (SA) are:

- The Health Systems Trust employs a health barometer to compare health indicators across 52 districts, enabling the Department of Health to develop strategies, monitor performance, and inform national and provincial planning. The district health barometer is an annual publication assessing 30 health indicators, including child health, disease burden, disability, Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS), and health facilities.[3]
- In 2012, the Commission for Gender Equality reported on progress in gender mainstreaming in public service, focusing on organizational culture, systems, transformation mechanisms, impact considerations, and business systems.[4] SA contributes annually to the Southern African Development Community (*SADC) Gender Protocol Barometer*.
- Universities South Africa (USAf) has developed a transformation barometer to facilitate integrated planning, execution, and sharing of ideas, practices, and

[3] See https://www.hst.org.za/publications/Pages/HSTDistrictHealthBarometer.aspx

[4] Report available at: to develop strategy, monitor district performance, and inform planning at national and provincial levels. This repository of the District Health Barometer is sorted by the most recently published date

strategies, promoting transparency, openness, and accountability in academic institutions (USAf, 2015).[5]
The Council on Higher Education (CHE) is focusing on developing a monitoring framework for the barometer, as it appears to have not been used systematically (Personal email communication with CHE Director in charge of Transformation Barometer project).

A barometer is also often called a gauge, and in SA, the Child Gauge, published annually by the Children's Institute, University of Cape Town, monitors the rights of children in South Africa, focusing on legislative issues, child demography, access to services, and mental health.[6]

A barometer standardises the collection of information for a 'state of affairs view' on key policy areas, allowing nuanced institutional/district/departmental reviews. Its goal is to take action based on evidence, with dimensions, activities, and indicators derived from current system data. It is a useful tool for M&E.

5. Approach and methodology

The study drew from three complementary approaches to ensure fit for purpose and robust approaches. The first broad approach utilised is **developmental evaluation.** Developmental evaluation has the aim of *helping develop* an innovation or intervention. The evaluator typically becomes a member of the programme team, participating in decision making, facilitating discussion about *how to evaluate what* happens, collecting and analysing relevant data and facilitating interpretation of *what this means,* in support of programme design and development (Patton, 2011). This approach is deemed suitable given that the Barometer was being developed iteratively with the DHET TVET Branch and regional staff.

The second approach is design-based research, which is an applied research approach that bridges the chasm between research and practice (Anderson and Shattuck, 2012) was also utilised as it is rooted in the developmental evaluation realm, which involves conceptualisation, design, testing and evaluation (Ibrahim, 2016).

[5] USAf (2015). A Transformation Barometer for South African Higher Education. Available at: https://www.ru.ac.za/media/rhodesuniversity/content/equityampinstitutionalculture/documents/A_Transformation_Barometer_for_South_African_Higher_Education_FINAL_DRAF....pdf

[6] Child Gauge. Available at: http://www.ci.uct.ac.za/ci/child-gauge/introduction

The final approach is systems thinking, which recognises that in education, components work together to achieve an objective. It acknowledges interdependencies and how different components of a value chain affect and influence each other (Ndaruhutse, Jones and Riggall, 2019). In the context of TVET performance, as viewed by the Barometer, systems thinking applies in that performance is determined by the sum total of indicators for the different dimensions that constitute performance. For example, quality is influenced by the enrolment and qualifications and access to Workplace-Based Learning (WBL), that is, over enrolment would negatively impact the quality of learning if the college does not have adequate infrastructure to accommodate students in lectures and workshops. Poor quality of provision affects efficiency and success as it can lead to dropout and repetition.

The Barometer was conceptualised, designed and tested through several iterations. A sequential explanatory design (Creswell and Clark, 2011) was adopted, which utilised the preliminary document review to engage stakeholders and develop initial indicators that were refined through use on the Barometer wireframe and further refined based on further inputs from DHET and colleges. Figure 2 shows the phased and sequential Barometer development process.

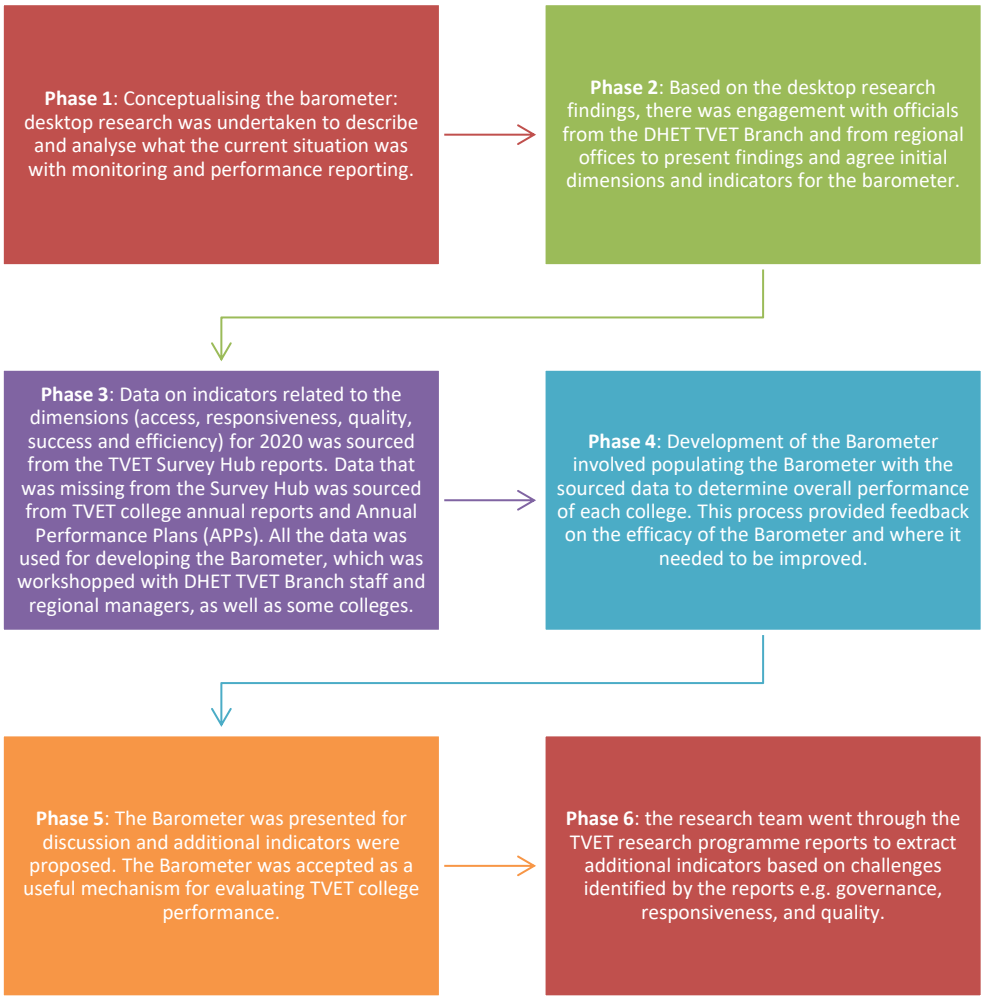

Figure 2: Barometer development process

5.1 Data collection challenges

In 2023, the decision was made at the request of the TVET Branch to utilise data for 2021 as this had become available and it would be of benefit to use the most recent data for the Barometer. A data template was sent to all colleges requesting data for an expanded set of indicators, that is, indicators that were being reported on already as well as new indicators that were deemed useful for determining performance even though they were not being reported on. Data was also sourced from other sources including college reports, college annual performance plans, survey hub and the national report on TVET.

There were several challenges with data collection from the various data sources mentioned above as well as from the template that was sent to colleges requesting data on indicators. These include:

- An extraction of data from college reports showed that there is inconsistency in reporting on indicators as some colleges report on some but not all indicators.
- When requesting data directly from colleges, some colleges did not have data managers or relevant personnel who would provide the requested data.
- Some colleges were easily able to provide data on new indicators, for example the levels of passes, while others were not able to provide this information. There was resistance from some colleges to supplying data for the new indicators, with some college data managers not providing the data because the college do not monitor and report on these indicators while others obliged and provided this data.
- There were variations in the data provided. Some of the data was not accurate, for example, disaggregation of data by levels of passes should add up to 100% but with some colleges the total would exceed this. Some of the colleges did not seem to have an understanding of proportion as opposed to number, they would provide a number where a percentage (%) was required.

The variations in the quality of provided data suggests that there are capacity challenges in some colleges, and this is a serious matter as interventions for improvement requires accurate and credible data. To highlight the data disparities across the colleges, a three-point rating scale from low to high was used to group colleges by data availability as reflected in Table 1. Low and medium availability of data denotes some significant to notable missing data.

Table 1: Rating data availability by college

Low	Medium	High
1. **Boland TVET College**	1. Esayidi TVET College	1. Ehlanzeni TVET College
2. **Buffalo City TVET College**	2. False Bay TVET College	2. Ekurhuleni East TVET College
3. **Capricorn TVET College**	3. Flavius Mareka TVET College	3. Ekurhuleni West TVET College
4. **Central Johannesburg TVET College**	4. Gert Sibande TVET College	4. Elangeni TVET College
5. **Coastal TVET College**	5. Goldfields TVET College	5. King Hintsa TVET College
6. **College of Cape Town**	6. Ikhala TVET College	6. King Sabatadalindyebo TVET College
7. **Eastcape Midlands TVET College**	7. Lephalale TVET College	7. Majuba TVET College
8. **Ingwe TVET College**	8. Letaba TVET College	8. Mopani South East TVET College
9. **Maluti TVET College**	9. Lovedale TVET College	9. Mthashana TVET College

Low	Medium	High
10. **Mnambithi TVET College**	10. Motheo TVET College	10. Orbit TVET College
11. **Nkangala TVET College**	11. Sekhukhune TVET College	11. Port Elizabeth TVET College
12. **Northern Cape Rural TVET College**	12. South Cape TVET College	12. Tshwane South TVET College
13. **Northern Cape Urban TVET College**	13. South West Gauteng College	13. Umgungundlovu TVET College
14. **Northlink College**	14. Thekwini TVET College	14. Western TVET College
15. **Sedibeng TVET College**	15. Umfolozi TVET College	
16. **Taletso TVET College**	16. Vuselela TVET College	
17. **Tshwane North TVET College**	17. Waterberg TVET College	
18. **Vhembe TVET College**	18. West Coast TVET College	

Table 2 presents a holistic picture of the data availability for each dimension, based on the scores. The Red, Amber, Green (RAG) index if used to reflect data availability. This index clearly shows where colleges fell short in terms of data provision.

Table 2: Overview of data availability for the barometer development

	Access	Quality	Responsiveness	Efficiency	Success	Overall
Total no of indicators available	**13**	**10**	**3**	**2**	**10**	**38**
Boland TVET College	10	0	1	0	0	11
Buffalo City TVET College	5	0	1	0	0	6
Capricorn TVET College	5	0	1	0	0	6
Central Johannesburg TVET College	5	0	1	0	0	6
Coastal TVET College	5	0	2	0	0	7
College of Cape Town	6	0	1	0	0	7
Eastcape Midlands TVET College	6	0	1	0	0	7
Ehlanzeni TVET College	6	5	1	1	4	17
Ekurhuleni East TVET College	9	10	3	2	5	29
Ekurhuleni West TVET College	10	8	3	2	6	29
Elangeni TVET College	6	2	2	2	5	17
Esayidi TVET College	5	0	2	0	0	7
False Bay TVET College	10	3	2	0	0	15
Flavius Mareka TVET College	8	5	2	1	0	16
Gert Sibande TVET College	7	3	2	1	2	15
Goldfields TVET College	5	0	2	0	0	7
Ikhala TVET College	13	8	2	2	0	25
Ingwe TVET College	5	0	2	0	0	7
King Hintsa TVET College	4	6	2	2	9	23
King Sabatadalindyebo TVET College	10	10	3	2	4	29
Lephalale TVET College	6	5	2	0	4	17
Letaba TVET College	4	0	1	0	0	5
Lovedale TVET College	5	0	2	0	0	7
Majuba TVET College	11	7	3	2	7	30
Maluti TVET College	5	0	1	0	0	6
Mnambithi TVET College	2	0	2	0	0	4
Mopani South East TVET College	6	3	3	1	4	17
Motheo TVET College	5	0	2	0	0	7
Mthashana TVET College	6	6	2	2	4	20
Nkangala TVET College	4	0	1	0	0	5
Northern Cape Rural TVET College	5	0	2	0	0	7
Northern Cape Urban TVET College	6	0	1	0	0	7
Northlink College	4	0	2	0	0	6
Orbit TVET College	7	8	3	1	6	25
Port Elizabeth TVET College	8	9	3	1	3	24
Sedibeng TVET College	5	0	1	0	0	6
Sekhukhune TVET College	6	0	2	0	0	8
South Cape TVET College	9	9	2	1	5	26
South West Gauteng College	3	0	2	0	0	5
Taletso TVET College	4	0	2	0	0	6
Thekwini TVET College	5	5	3	0	4	17
Tshwane North TVET College	4	0	0	0	0	4
Tshwane South TVET College	10	9	2	2	7	30
Umfolozi TVET College	5	2	2	0	0	9
Umgungundlovu TVET College	8	1	3	1	5	18
Vhembe TVET College	5	0	1	0	0	6
Vuselela TVET College	7	2	2	0	0	11
Waterberg TVET College	6	1	3	1	0	11
West Coast TVET College	6	0	1	0	0	7
Western TVET College	4	7	2	2	6	21

6. Situation analysis

In phase 1 of the study, in order to determine the dimensions and indicators for TVET colleges for the Barometer, the survey hub reports 2017 – 2019 provided by the TVET branch, the M&E Framework for TVET, and performance reporting guidelines for TVET colleges were evaluated using a rubric developed to systematically analyse the existing M&E system. The existing system was analysed according to four aspects reflected in Figure 3.

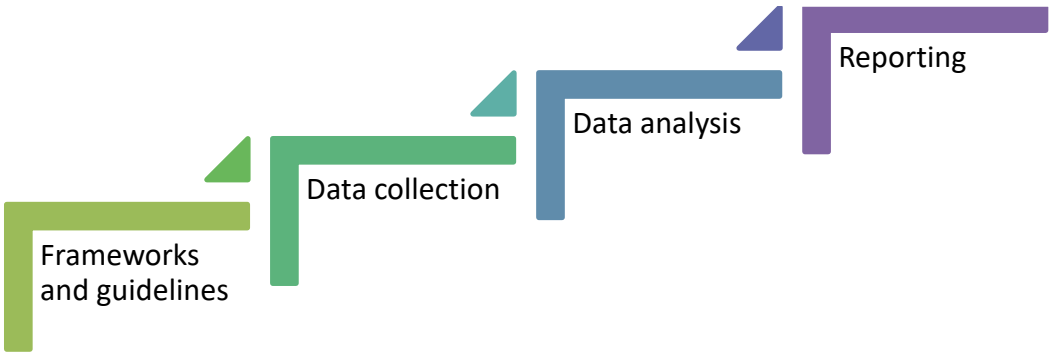

Figure 3: M&E aspects analysed using a rubric

Table 3 shows the rubric used for the analysis, using these aspects to frame multiple elements and criteria for evaluation on a scale of 1 to 4.

Table 3: Rubric for evaluating current TVET M&E frameworks and technical guidelines

Performance reporting elements	1. Underdeveloped	2. Developing	3. Acceptable	4. Exceptional/Exemplary
M&E Frameworks and technical guidelines				
Alignment of strategic outcomes across documents	The outcomes differ completely in different documents	The outcomes differ slightly in different documents	The outcomes are mostly similar in different documents	The outcomes are the same in different documents
Consistency of nomenclature	Different nomenclature is used in all documents	Different nomenclature is used in some documents	The same nomenclature is in most documents	The same nomenclature is used across all documents
Guidance provided to colleges	No guidance is provided to colleges on performance reporting	Limited guidance is provided to colleges on performance reporting	Adequate guidance is provided to colleges on performance reporting using a common language on indicators and outcomes	Comprehensive guidance is provided to colleges on performance reporting using a common language on indicators and outcomes
Data collection - Survey Hub				
Familiarity of terms used	The M&E terms used in the template are not familiar to the users.	Less than 50% of the M&E terms used in the template are not familiar to the users.	More than 50% of the M&E terms used in the template are familiar to the users.	All the M&E terms used in the template are familiar to the users.
Completeness of data	Less than 25% of editable fields on Survey Hub are completed	25% - 49% of all editable fields on survey hub are completed	50% - 99% of all editable fields on survey hub are completed	All editable fields on survey hub are completed
Exporting enrolment data from TVET Management Information System TVETMIS	Enrolment data from TVETMIS is not populated	Partial enrolment data from TVETMIS is	Most enrolment data from TVETMIS is populated onto the Survey Hub Template	All enrolment data is populated onto the Survey Hub Template

Performance reporting elements	1. Underdeveloped	2. Developing	3. Acceptable	4. Exceptional/Exemplary
	onto the Survey Hub Template	populated onto the Survey Hub Template		
Verifying data from TVETMIS	Users are not given a chance to verify TVETMIS data	Users are given a chance to verify TVETMIS data but cannot highlight discrepancies with college data	Users are given a chance to verify TVETMIS data and can highlight discrepancies	Users are given a chance to verify TVETMIS data and highlight discrepancies and make changes
Analysis and comments	Analysis and comments are not provided for less than 25% of the results	Analysis and comments are not provided for 25% - 49% of the results	Analysis and comments are provided for 50% - 99% of the results	Analysis and comments are provided for all the results
Type of analysis and comments	Analysis and comments repeat the quantitative data	Analysis and comments are not reflective	Analysis and comments are descriptive	Analysis and comments are analytic and related to the data provided
User control and freedom	The data collection template cannot show users what to do if they must make changes to the data.	The data collection template to a limited extent shows users what to do if they must make changes to the data.	The data collection template to a great extent shows users what to do if they must make changes to the data.	The data collection template always shows users what to do if they must make changes to the data.
Error prevention	When users make errors, this is not immediately clear, and the errors are not flagged	When users make errors, this is not immediately but the system can flag errors at a later stage of analysis	When users make errors, this is clear immediately, but they cannot correct these errors	When users make errors, this is clear immediately and they can correct these errors
Analysis				

Performance reporting elements	1. Underdeveloped	2. Developing	3. Acceptable	4. Exceptional/Exemplary
Aggregation	Results for dimensions are discrete	Results for some dimensions are aggregated	Results for different dimensions are aggregated but overall performance is not determined	Results for different dimensions are aggregated to evaluate overall performance
Presentation	It is not visually clear from data inputs how colleges are performing	To a limited extent, a visual understanding of how colleges are performing can be discerned.	To a great extent, a visual understanding of how colleges are performing can be discerned.	It is visually clear from data inputs how colleges are performing
Reporting				
Causal chain is clear in the reporting	The relationship between inputs and activities and outputs and outcomes is not clear at all	The relationship between inputs and activities and outputs and outcomes is clear for less than half the reported outputs and outcomes	The relationship between inputs and activities and outputs and outcomes is clear for more than 50% of reported outcomes	The relationship between inputs and activities and outputs and outcomes is clear for all reported outputs and outcomes
Corrective measures specified	Where targets are not achieved, no corrective measures are specified at all	Where targets are not achieved, corrective measures are specified for only some of the missed targets	Where targets are not achieved, corrective measures are specified for most of the missed targets	Where targets are not achieved, corrective measures are specified for all of the missed targets
Inputs for corrective measures	Inputs for corrective measures are not specified	Inputs for a few corrective measures are specified	Inputs for most corrective measures are specified	Inputs for all corrective measures are specified

Performance reporting elements	1. Underdeveloped	2. Developing	3. Acceptable	4. Exceptional/Exemplary
Activities for corrective measures	Activities for corrective measures are not specified	Activities for a few corrective measures are specified	Activities for most corrective measures are specified	Activities for all corrective measures are specified
Timelines for corrective measures	Timelines for corrective measures are not specified	Timelines for a few corrective measures are specified	Timelines for most corrective measures are specified	Timelines for all corrective measures are specified
Qualitative indicators	No qualitative indicators are set for outputs and outcomes	At least 5 qualitative indicators are set for outputs and outcomes	At least 10 qualitative indicators are set for outputs and outcomes	At least 15 qualitative indicators are set for outputs and outcomes

6.1 Frameworks and technical guidelines analysis

The 11 elements of analysis of frameworks and guidelines have a maximum of 44 points and a rating scale with the following ranges was developed to determine overall evaluation of the system elements:

11 - 20: Underdeveloped

21 - 32: Developing

33 - 40: Acceptable

An overview of system level document analysis using the rubric in Table 3 is provided in Table 4 and elaborated after the table, using M&E frameworks and survey hub reports for 2017 - 2019.

Table 4: Overall evaluation of framework and guidelines elements

Framework and guideline element	Score	Criteria
Alignment of strategic outcomes across documents	2	The outcomes differ slightly in different documents
Consistency of nomenclature	3	The same nomenclature is in most documents
Guidance provided to colleges	3	Adequate guidance is provided to colleges on performance reporting using a common language on indicators and outcomes
Familiarity of terms used	4	All the M&E terms used in the template are familiar to the users
Completeness of data	3	50% - 99% of all editable fields on survey hub are completed
Exporting enrolment data from TVETMIS	3	Most enrolment data from TVETMIS is populated onto the Survey Hub Template
Verifying data from TVETMIS	4	Users are given a chance to verify TVETMIS data and highlight discrepancies and make changes
Analysis and comments	3	Analysis and comments are provided for 50% - 99% of the results
Type of analysis and comments	2	Analysis and comments are not reflective
User control and freedom	4	The data collection template shows users what to do if they must make changes to the data

Error prevention	1	When users make errors, this is not immediately clear, and the errors are not flagged
Total score and evaluation	32	Developing

6.1.1 Alignment of strategic outcomes across M&E documents

The outcomes in the M&E Frameworks and technical guidelines differ slightly across documents. The *Technical Guidelines for Performance Reporting by TVET colleges* (DHET, 2020) highlights four strategic outcomes for TVET colleges to report on in the period 2020 – 2024:

1. Expanded access to TVET college opportunities
2. Improved success and efficiency of TVET systems
3. Improved quality of TVET college provision
4. Improved responsiveness of TVET colleges to the world of work

These encompass the five goals specified in the White Paper on PSET and articulated in the M&E Framework for PSET, except that in the TVET guidelines, the outcome improved success and efficiency are specified as one outcome and not two separate outcomes. These two are best presented as two separate outcomes because although efficiency contributes to success, efficiency is not only about time to graduate but also utilisation of resources optimally in other college activities.

Each of these outcomes have specific indicators and outputs.

The M&E Framework for TVET College Performance specifies six pillars for monitoring and reporting:

1. Governance
2. Management
3. Infrastructure and facilities management
4. Student support services
5. Academic quality and success
6. Work and employability

It is not defined what pillar is and only the fifth pillar is aligned to what is specified in the technical guidelines. The pillars also have their own indicators. What is notable is that the indicator for access in the technical guidelines, that is, *number of headcount enrolments in differentiated programme types* appears under management and governance, enrolment planning in the TVET M&E Framework. The other indicator for access in the technical guidelines speaks to optimal occupancy of TVET accommodation. The same indicator is

stipulated under Infrastructure and facilities management – student accommodation in the M&E Framework. Funding, which is an enabler of access and success would ideally be placed as an indicator for access but is specified under the management and governance- student support services and financial management in the M&E Framework.

These few examples highlight that there are areas of misalignment between the *Technical Guidelines* and the TVET *M&E Framework* which may cause confusion in the sector. Consistent pillars/outcomes and indicators would create a clear shared understanding among colleges of what is being measured. For most people, M&E language is challenging and non-alignment in what the dimensions are in different documents is bound to cause confusion. Further, the M&E dimensions for TVET colleges also have to align with PSET indicators in the White Paper for PSET and the *Macro indicator report*, which uses access, quality, relevance, responsiveness and success as the key reporting dimensions. It is also useful to rather speak of goals and outcomes and objectives in line with accepted M&E nomenclature.

A weakness has been identified in the lack of alignment between education and labour market statistics globally. According to Alwan et al (2011, p.11) usually, educational statistics do not link up with labour market information systems. This is a challenge that should be addressed for the benefit of TVET colleges as a bridge to formal employment for students. It would be of utmost benefit for educational statistics to be directly linked to labour market information systems.

6.1.2 Verifying data from TVETMIS

Considering exporting enrolment data from TVETMIS, prepopulating of the Survey Hub report with data available from other databases as is currently done for enrolment data, with TVETMIS, is useful to ensure consistency across data platforms and to minimise error. Most of the data is currently available on TVETMIS. Within the confines of the Protection of Personal Information Act (POPIA), labour market data may be collected based on memoranda of understanding with Statistics South Africa (StatsSA), the Department of Employment and Labour (DEL), or the South African Revenue Services (through use of identity numbers) to determine which students from TVET colleges find employment.

6.1.3 Guidance provided to colleges

Guidance is about the ability of the system to always keep users informed about what is going on, through appropriate feedback. At operational level, the TVET branch has provided adequate guidance to colleges and DHET officials on the use of the Survey Hub and analysis

of data. Training was provided[7] which covered security and rights issues as well as responsibilities of TVET officials in relation to viewing and utilisation of data and not amending it. There are also technical guidelines for performance reporting which highlights the reports available on survey hub, their purpose and the Directorate responsible. There is also technical support available on the use of the Survey Hub through Information Systems Coordination Directorate (ISCD) (DHET, 2021).

Regarding the report template itself, its design is clear, guiding users through the data by use of individual worksheets for each question, and specifying the question being answered by the data in each worksheet as highlighted in the screen grab in Table 5.

Table 5: Example page from Survey Hub report

Province	Organisation Name	College achieved 2017	College achieved 2018	College target 2019 (Annual)	College achieved 2019 (Annual)
Eastern Cape	College A	8460	6496	6872	6872
Eastern Cape	College B	12525	8563	8827	9544
Eastern Cape	College C	8187	16229	6472	8077
Eastern Cape	College D	9522	8299	8539	9679
Eastern Cape	College E	3048	4798	4659	1180
Eastern Cape	College F	9733	9288	8832	2423
Eastern Cape	College G	4330	4500	5019	1653
Eastern Cape	College H	7388	10475	7837	7837
Free State	College I	7470	4855	2007	4855
Free State	College J	6017	5498	5767	5767
Free State	College K	9975	4207	6670	8252
Free State	College L	20174	20216	19274	7500

Question 1 | Question 2 | Question 3 | Question 4 | Question 5 | Question 6 | Q

6.1.4 Familiarity with terms used

The words, phrases and concepts used on survey hub are familiar to the users. The Survey Hub report template as well as the questions are aligned to the dimensions in the TVET Theory of Change (ToC) Framework as well as strategic planning documents, i.e. indicators on enrolment, certification, governance etc. are well understood within the TVET college sector.

Another aspect of familiarity between the Survey Hub report and the real world of reporting for TVET is the alignment of the report template with other TVET data systems. As indicated earlier, enrolment information is exported and prepopulated into survey hub from data in TVETMIS (DHET, 2020). The fact that the data can be seamlessly exported minimises discrepancies that could arise from human error were raw enrolment data from colleges to be populated onto Survey Hub.

[7] There is evidence of a PowerPoint on Training on Surveys on Survey Hub 2021

It was concerning though that of the 2017 – 2019 reports shared, data for enrolment for four colleges was reported as incorrect – on targets and achievement. Given the time lag from 2019 to 2022, it would not be an unreasonable expectation for all data discrepancies to have been addressed if the M&E purpose of improvement were applied – the data would have been corrected when colleges indicated it was incorrect. The reports in question were shared with the research team by the TVET Branch in 2022. Leaving data that has been pointed out as incorrect is **highly problematic** as it also fails to address the issues of accountability and validity of data. If the data is indeed exported from TVETMIS, it would also follow that any incorrect enrolment data in the Survey Hub report is also incorrect in TVETMIS, which leads to the issue of verification.

6.1.5 Verifying data from TVETMIS

That some data was flagged as incorrect suggests that colleges are given a chance to verify data from TVETMIS.

6.1.6 User control and freedom

This heuristic is about ease of navigation when a user of the survey hub report chooses functions by mistake and needs a clearly marked "emergency exit" to go back to what they really want to do with the data. The report template assumes a high level of excel literacy skills among the users of the data, as it does not have a tab to describe functions or analysis that can be done with the data. The lack of explanatory notes about the template could lead to difficulties with the completion of the template. Users who are not very confident with excel could get stuck without some guidance notes. Even though there was training to use the survey hub new people may not have been trained and will need guidance notes. There should also be continuous refresher training that could also benefit new people.

6.1.7 Error prevention

A careful design which prevents a problem from occurring is desirable, and this can be achieved by either eliminating error-prone conditions or checking for them and presenting users with a confirmation option before they commit to an action. There were several comments in the reporting template where it was specified that there had been no response to the question. In surveys, errors particularly missing data which can skew findings, can be prevented by making all questions compulsory. This will ensure that respondents can only move on to the next question when they have answered a question, avoiding missing information.

6.2 Utilisation of monitoring data

The DHET views monitoring as an essential management tool. It is undertaken to identify challenges, constraints, blockages, and bottlenecks to the achievement of desired results. The DHET emphasises the need to put in place mechanisms to immediately address and correct the barriers to achieving outputs and outcomes. Below is a range of uses for monitoring data:

Instrumental use for reporting and accountability

- Reporting and accountability to donors
- Reporting and accountability internally (insights for management about progress)
- Reporting and accountability to partners
- Communication to the wider public

Instrumental use for adjustment and improvement

- As an input for planning
- Adjusting projects and programmes during their period of implementation
- Taking decisions about committing funds/staff during period of implementation
- Taking decisions about committing funds/staff for subsequent project periods or similar projects or programs
- Taking decisions about (dis-) continuation of partnerships
- Taking decisions about capacity development of partners (or implementing field offices)

Conceptual and process use

- Learning from monitoring data about what does or does not work and thereby increasing the body of knowledge of the organisation

For all these uses, data collected can be presented in a way that immediately communicates findings - this is currently not evident in the Survey Hub reports. Three ways in which data can be visualised meaningfully are discussed.

Using cell styles to visually show and differentiate performance

When the research team asked for survey hub reports it also asked for an indication of three colleges each that were good, moderate and poor performers. When the names of these colleges were received, it was not clear by looking at the reports what separated the good from the moderate to the poor performers. An excel feature like cell styles can immediately flag colleges by performance using different cell colours as illustrated in Table 6, which highlights colleges that met or exceeded their enrolment target in green highlight and those that did not in pink. This immediately gives a visual representation of colleges that are

struggling or doing well or moderately performing. Additional colours can be used to depict data analytically in the way that the DHET wants to analyse it for decision making.

Table 6: Using cell style to differentiate college performance

Province	Organisation Name	College achieved 2017	College achieved 2018	College target 2019 (Annual)	College achieved 2019 (Annual)
Eastern Cape	College A	8460	6496	6872	6872
Eastern Cape	College B	12525	8563	8827	9544
Eastern Cape	College C	8187	16229	6472	8077
Eastern Cape	College D	9522	8299	8539	9679
Eastern Cape	College E	3048	4798	4659	1180
Eastern Cape	College F	9733	9288	8832	2423
Eastern Cape	College G	4330	4500	5019	1653
Eastern Cape	College H	7388	10475	7837	7837
Free State	College I	7470	4855	2007	4855
Free State	College J	6017	5498	5767	5767
Free State	College K	9975	4207	6670	8252
Free State	College L	20174	20216	19274	7500

Juxtaposing achievement data and targets

For evaluating performance, it helps to evaluate achievement against targets. In Table 6, there are no enrolment targets for 2017 and 2018, which makes it difficult to read the data. However, for 2019, the juxtaposition of targets and achievement clarifies the meaning of the data.

Presenting all the data on one sheet

While the use of individual sheets to capture data for each question was lauded earlier as useful for user navigation, from a performance evaluation point of view, presenting data that way gives the impression that each question is discreet, when the overall evaluation of performance should be done by determining the aggregate of all performance aspects. The data can be presented in individual sheets, but only when it is pulled through into a summation that considers the different elements and what it means for overall performance can be most useful for getting a more accurate picture of performance. The data however can also be captured on one sheet to provide a complete overview of performance on different dimensions and indicators, which can be enhanced by the colour coding that can be achieved by cell styles. An example of a snapshot of how the data can be presented in a continuum on a sheet is presented in Table 7 for the access dimension, showing the programmes, targets and achievement.

Table 7: Proposed Survey Hub report data capture using a single sheet on a continuum

College Name	Reporting date	Access: Enrolment													
		NCV		Nated		PLP		Skills Programmes		Occupational Programmes		COS		Higher Certificates	
		Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
Boland College															
Buffalo City College															
Capricorn College															
Central Johannesburg College															
Coastal KZN College															
College of Cape Town															
Eastcape Midlands College															
Ehlanzeni College															
Ekurhuleni East College															
Ekurhuleni West College															
Elangeni College															
Esayidi College															
Ethekwini College															
False Bay College															
Flavius Mareka College															
Gert Sibande College															
Goldfields College															
Ikhala College															

Reporting by question is only a limited step to evaluating performance as it does not provide an overview or a gauge of the health of individual TVET colleges or the overall health of TVET colleges nationally. Currently, the data in the survey hub report is hard coded and does not pull through to a summary sheet using formula to consider the performance for each indicator and its contribution to overall performance. This analysis informed the proposal made in phase 1 to have some cells at the end of the sheet which pull through data for each dimension to present an overall score which is then allocated an agreed rating to determine overall score and performance. For operational and improvement purposes, the sheet would end with an indication of interventions to address poor and moderate performance. An example of how the aggregation of performance was envisaged in phase 1 is presented in Table 8.

Table 8: Proposed aggregation of dimension scores to determine overall performance

Performance							
Access	Quality	Responsiveness	Efficiency	Success	Classification	Total Score	Interventions to address non-performance

Table 8 includes the classification score which is included in the Barometer. This is a feature that is missing in the current survey hub report template, understandably so as the classification scores were developed in 2022. The classification model was developed by Mzabalazo Advisory Services (MAS) to provide a differentiated and systematic determination of college context. The classification is included in the Barometer so that college performance is located within context as colleges are not homogenous.

Per question reporting is also limiting as it also does not speak to the results chain of the ToC. A performance report should indicate whether the outputs and outcomes are commensurate with the inputs and activities. The interdependence of dimensions can be accounted for through aggregation of data, e.g. one of the colleges that was rated as poor by the TVET Branch has a lecturer: student ratio of 1: 120 using 2017 data. There is need to explore whether this weak qualitative measure, or the geographic location, or any other efficiency issues are contributing to poor certification, something that can only be done if the total of performance in each dimension and for each indicator are considered. The proposal at phase 1 was to use **regression analysis** to determine the overall performance of each college.

Qualitative data is also important in understanding the quantitative data to avoid vanity reporting. The proposal is that quantitative data for poor and moderate performing colleges is linked to a qualitative sheet where explanations are provided for why the performance is poor

or moderate. Interventions would also need to be stipulated on how performance can be improved. Currently, the comments in the 'comments columns' of the survey hub report are not very useful in offering intervention strategies. They just mostly confirm what is in the quantitative data. In the Barometer, qualitative data is collected through Yes/No questions to establish presence for example of a Council or of functionality of a Council. Although some stakeholders believed that the presence and functionality of a Council should not be included because this is DHET's responsibility and should not be used to affect the college's performance, the Council is such an integral part of college functioning and it is useful to make it visible whether councils are being appointed or not as the DHET can then intervene where councils are not being appointed. Excluding it would ensure that the problem of non-appointment of councils, if it exists, remains hidden.

7. The Barometer

The Barometer seeks to measure performance of colleges using consistent criteria. By using consistent criteria, colleges are measured using the same dimensions and indicators so that a comparison of colleges is equitable, fair and rigorous. The resulting differences in scores can be used as a quantitative basis to understand the differences between the colleges and therefore gain insights into the colleges' performances. The Barometer is data-driven and therefore limits subjectivity in assessing differences in the performance of colleges. The Barometer and User Guide are presented as separate documents to this report.

7.1 Dimensions and indicators for the barometer

Drawing from the theoretical and engagement work done in all phases, the final set of indicators are quite extensive. After the five dimensions and initial indicators were agreed in phase 1, a process of indicator harvesting followed, using multiple sources including documents and reports from DHET, college reports, and feedback from DHET officials who proposed further indicators. Importantly, after the last round of inputs from the DHET on the indicators, MAS perused other relevant TVET research programme reports to harvest relevant indicators. In this regard, the barometer is linked to other research projects in the following ways:

Table 9: How the Barometer draws from other TVET research programme research

TVET research programme report	Findings and influence on barometer indicators
Analysis of Programme Qualification Mix (PQM) Responsiveness to the World of Work (Isdale & Rogan, 2023)	The study found that there was an oversupply of engineering graduates and an undersupply of accountants. This raises questions about responsiveness and colleges' engagement with labour market intelligence in the determination of PQM, hence the inclusion of indicators on:
Accommodating students – Building a model for TVET student housing (MAS, 2021)	• Among the student satisfaction with quality of accommodation using a variety of aspects, the aspect of access control to the hostel was added as an indicator of quality for the barometer given the recent issues with the safety of students in places where they reside, both on campus and in private accommodation • The study points out that there were challenges with appointing qualified people to manage campus accommodation and in some cases, lecturers are paid extra money to become matrons. This finding led to the inclusion of the indicator on number of qualified campus accommodation managers. • Given the low proportion of students with disabilities who were housed on campus accommodation, as highlighted by the study, the indicator for Percentage occupancy by people with disabilities was also included. • The finding that TVET on campus accommodation is needs based and aimed at providing a bed and food as opposed to being assets based and treating student accommodation as an enabler of study and academic success led to the indicator on Proportion of residences equipped with desks and chairs, computers, and study spaces
TVET Student Satisfaction Report (Viljoen & Cilliers, 2022)	The study found that a notable proportion of surveyed students were not aware of the following policies: • Gender based violence • Disability • Substance abuse and crime This led to inclusion of indicators to assess the availability of key policies and the existence of communication strategies for these policies. Availability of policies is a quality issue in the Barometer indicators

TVET research programme report	Findings and influence on barometer indicators
Evaluation of TVET College Governance systems (MAS, 2024)	The governance report points out that there is a clear benchmark for the number of meetings that should be conducted annually by the Council. The report also highlights functionality issues within some Councils, hence the inclusion of the indicator about whether the Council is functional.
Situational Analysis of Entrepreneurship Development in TVET Colleges (Roopnarain)	This study found that there were limited course offerings on entrepreneurship, hence the inclusion of the indicator on how many entrepreneurship courses are on offer. The study also found that the courses were predominantly theoretical, hence the inclusion of the indicator on business exposure to students studying entrepreneurship courses.
Quality of Lecturing and Teaching at TVET Colleges (Papier et al, 2024).	The research on quality of TVET lecturing and teaching develops some quality indicators on use of technology for teaching and learning, workplace based learning, simulated learning, learning environments, student support services and lecturer qualifications and industry experience that aligns with the indicators in the Barometer
Developing a classification system for TVET colleges (MAS, 2022)	The classification system categorises colleges using a complex set of indicators that locates colleges in their different socio-economic contexts. This model differs from the geographical classification that has characterised the classification of colleges for a long time. The classification score is not computed into the college performance score but juxtaposed against the performance score to provide the college context so that the interpretation of the performance can also be informed by this classification.

The barometer project also intersects with the maturity model in that there is alignment on the dimensions – responsiveness, effectiveness and quality (DHET, nd). The differences are that the Barometer ends at the level of data, that is it shows the performance of colleges, but the maturity model goes further and offers solutions on how to support colleges. A strength of the Barometer is that it is evidence based and not anecdotal and it can provide credible data for the maturity model to work from on designing the support or interventions that were proposed as crucial to a Barometer during the phase 1 conceptual design phase of the Barometer project. The maturity model data can also be triangulated with the Barometer data to improve rigour and test reliability of the data.

7.2 Principles for selection of indicators

The following principles informed the selection of indicators:

- **Alignment with data within the system:** As far as possible, indicators had to align with those that were currently being used for the collection of data a need to be as far as possible ones that are currently being used. This would ensure buy-in and seamless integration of the Barometer as it would not been perceived as creating a parallel system of data collection or creating additional work.
- **Innovative**: While it is important to preserve the stability of the system, empirical evidence has shown an inadequacy in the indicators and data being collected to measure performance. As such, additional and new indicators have been suggested that can be phased in gradually into the system.
- **Objective**: To a great extent, indicators are objective, that is, they can be established factually. However, in an effort to include qualitative data, some subjective indicators like functionality of Council can elicit subjective responses as this is relative but can however be verified through college outputs.
- **Specific**: The indicators are specific to the dimensions that are in line with the PSET White Paper.
- **Measurable**: The indicators are measurable.
- **Realistic**: The indicators are realistic to the TVET context.
- **Dynamism**: The indicators are dynamic and will be refined continuously in use.
- **Holistic**: The indicators are holistic and try to capture the aspects that can lead to transformative improvement of the TVET colleges, that is, areas that can be improved to enhance impact and success.

7.3 Dimensions and indicators used for the Barometer MVP

The indicators for the dimensions used for the Barometer are presented in Table 10. All indicators in Asterix are new indicators that have not been used before for collecting data from colleges.

Table 10: Barometer dimensions and indicators

Access	**Responsiveness**
Number of students enrolled in National Certificate Vocational (NCV)	Number of entrepreneurship courses being offered
Number of students enrolled in Report 190/191	Number of business related links for students on entrepreneurship programmes
Number of students enrolled in Pre-Vocational Learning Programme (**PLP**)	Number of partnerships with industry
Number of students enrolled in occupational qualifications	Number of students enrolled in programmes relating to Occupations in High Demand (OIHD) and priority skills
Number of students enrolled in trades (Centres of **S**pecialisation - COS**)**	Number of artisans exiting a TVET college
Number of students enrolled in skills programmes	Number of different types of skills programmes on offer
Number of students enrolled in Higher Certificate qualifications	*Number of students enrolled in programmes responsive to the local economy (Local Economic Development (LED))
***Number of programmes offered in blended mode (Online** and **Face to Face)**	*Programmes responding to local economy
***Number of students enrolled in programmes offered in blended mode (Online and Face to Face)**	
***Proportion of students with access to data**	
***Proportion of students with access to connectivity**	
***Proportion of students with access to a device for blended learning**	
***Number of programmes offering evening classes to expand access to students who cannot attend classes during the day**	
***Number of programmes offering weekend classes to expand access to students who cannot attend classes during the week**	
Quality	**Efficiency**
***Number of programmes that have some components of simulated learning (Where the students perform real world job tasks on a digital platform or in a lab)**	Throughput rate of NCV students who started programme in 2019

***Number of students enrolled on programmes with simulated learning**	Number of Report 191 students in a cohort who complete a trimester
Number of students in campus accommodation	*Proportion of exiting NCV students passing with 40 - 49%
***Number of students in campus accommodation with access control**	*Proportion of exiting NCV students passing with 50 - 59%
***Number of students in private college approved accommodation**	*Proportion of exiting NCV students passing with 60 - 69%
***Number of students in private college accommodation with access control**	*Proportion of exiting NCV students passing with 70 - 79%
***Number of lecturers academically and technically qualified to be TVET lecturers**	*Proportion of exiting NCV students passing with 80 - 100%
***Proportion of lecturers placed in industry for development**	*Proportion of exiting Report 191 students passing with 40 - 49%
***Student: lecturer ratio for NCV**	*Proportion of exiting Report 191 students passing with 50 - 59%
***Student: lecturer ratio for Report 191**	*Proportion of exiting Report 191 students passing with 60 - 69%
***Student: lecturer ratio for Skills Programmes**	*Proportion of exiting Report 191 students passing with 70 - 79%
***Ratio of** Student Support Services (**SSS**) **officials to students**	*Proportion of exiting Report 191 students passing with 80 - 100%
***Number of engineering programmes with workshops**	Proportion of exiting Skills Programmes students deemed competent
***Number of workshops in the college for engineering disciplines**	*Number of programmes offering evening classes to support students who need extra help with their studies
***Number of students per square metre in engineering workshops**	*Number of programmes offering weekend classes to support students who need extra help with their studies
***Number of non-engineering programmes with workshops**	Unqualified audit outcome
***Number of workshops in the college for non-engineering disciplines**	Compliance with governance standards
***Number of students per square metre in non-engineering workshops**	
***Number of students per square metre in theory classes**	
Success	

Proportion of NCV students qualifying for examinations
Proportion of Report 191 students qualifying for examinations
***Proportion of students of the NCV cohort employed withing 1 year of graduation**
Proportion of students of the N6 cohort in workplace based learning
***Proportion of graduates from NCV engineering employed in engineering jobs related to what they studied**
***Proportion of Report 191 students employed in jobs related to what they studied**
***Proportion of students on skills programmes employed in jobs related to what they studied**
***Does your college generate third stream income?**
Does your college have an appointed council?
Is the council functional?

7.4 Observations on data supplied using the indicators

The indicators in Table 9 were used to develop a template requesting data from colleges on these indicators. Table 11 presents an overview of findings from the data provided or available from other sources like college reports, on some of the indicators, justifying their inclusion in the Barometer.

Table 11: Observations on data collected directly from colleges

Dimensions	Indicators	Challenges
Access	Number of students enrolled in Higher Certificate (HC) qualifications	Enrolments for HC qualifications were significantly low across all colleges, if they had any at all. This is a growing area that should be controlled in relation to strength of colleges so it is not surprising that enrolment is low.
	Number of programmes offered in blended mode	Very few colleges offer programmes in blended mode. Again, there are capacity considerations for this offering and colleges may be constrained by their infrastructure.
	Number of students enrolled in programmes offered in blended mode	
	Proportion of students with access to data	Most of the data indicates that access to data, connectivity and a device for learning is only guaranteed for students who are funded by National Student Financial Aid Scheme (NSFAS). There are only a few colleges that are in the process of installing Wi-Fi in their campus
	Proportion of students with access to connectivity	
	Proportion of students with access to a device for blended learning	

	Number of students with disability	This data is often not published in college reports yet it is such an important indicator for equity.
	Number of students in campus accommodation with access control	Most campuses do not have accommodation that they manage and have private accommodation as an alternative. For colleges that have accommodation, they do not monitor access control in campus accommodation and access control is often limited to the main gate. This raises safety concerns as students can be vulnerable if main gate access is breached.
	Lecturers academically and technically qualified to be TVET lecturers	This is a concern as the findings are that lecturers are not adequately qualified. Some statements from colleges: • *Majority of lecturers are qualified to be school teachers* • *Historical challenges and teaching qualification is not compulsory for appointment to a Lecturer post.* • *There is a programme in process to upskill lecturers without requisite qualifications.*
	Student: lecturer ratio	1:30 is the Norm which most colleges have adhered to however there have been colleges that have over-enrolled and exceeded the norm
	Ratio of SSS officials to students	Most colleges do not monitor this.
Efficiency	NCV students complete the qualification within 3 years	Data received indicated that most colleges did not meet their targets for this indicator
	Number of college campuses offering evening classes	Very few colleges offer weekend and evening classes for their programmes
	Number of college campuses offering weekend classes	
Success	Number of completers employed within specific time periods	Tracer studies are seldom administered by TVET colleges, hence there was no data submitted by college managers.
	Number completers employed in jobs related to what they studied	

7.5 Application and scoring

Each indicator was given a score of between 0 and 5. For each indicator, a college's own target for the indicator is compared with the college's actual achievement. The actual level achieved level is expressed as a percentage of the target level and a score of between 0 and 5 is allocated as follows:

Table 12: Scoring matrix for indicators

Actual level achieved, expressed as a percentage of target level	**Allocated score**
20% or less	From 0 to 1
From 21% to 40%	From 1 to 2
From 41% to 60%	From 2 to 3
From 61% to 80%	From 3 to 4
From 81% to 100%	From 4 to 5
More than 100%	5

A dimension score is calculated as an average of the indicators. For example, a score for "Access" is calculated as average of scores of the indicators within this dimension.

The total score is calculated as an average of the dimension scores. This score is referred to as "College performance" in the Barometer. An example of the scoring across dimensions, for Ekurhuleni East TVET College, which has been selected because it was exemplary in availability of data (see Table 2) is presented in Figure 4, which compares the dimension ratings of the College against the average of score in each dimension for all 50 colleges. Figure 4 also suggests that Ekurhuleni East College is not being pulled down by its development score as its performance is above average and is pulling above the weight of the development score. Such a finding would be useful for allocating resources and rewarding colleges who perform well despite external challenges as evidenced by their development score. Another commendable feature of the barometer, using Figure 4, is that the visual communication about whare colleges may be struggling in terms of performance, relative to all colleges is immediately clear. It is clear that Ekurhuleni East College is struggling with responsiveness.

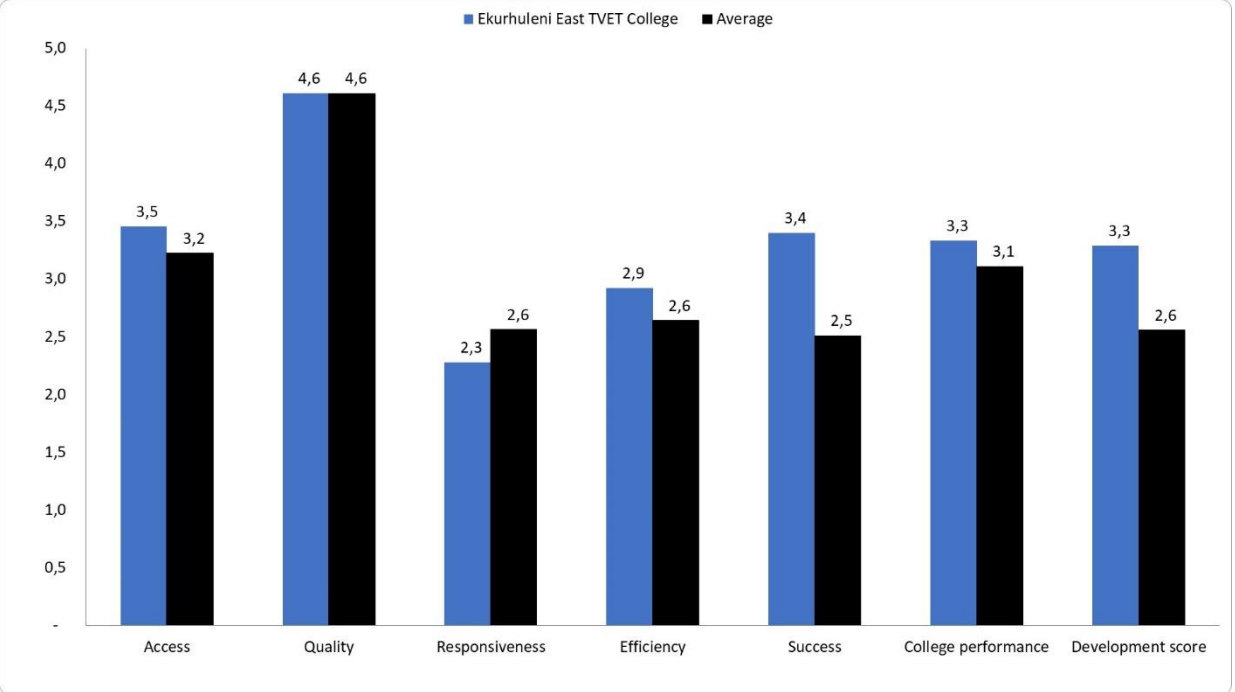

Figure 4: Demonstration of scoring across dimensions for Ekurhuleni TVET College

In addition to the information that can be presented graphically as in Figure 4, the Barometer also has capabilities for providing a summary of all college performance in a table, for each dimension as demonstrated in Table 13 using the RAG index. A caveat should be made here that as Table 2 highlights, some colleges had data limitations that would be affecting their overall score. However, Table 13 is useful for illustrative purposes. By having an arial view of how other colleges are performing in all dimensions, colleges can link up with colleges that are doing relatively well, to share good practice.

Table 13: Overview of performance of all colleges

College	College performance						Development score
	Access	Quality	Responsiveness	Efficiency	Success	Total performance	
Average	3,4	2,2	1,9	1,0	1,6	2,0	2,6
Boland TVET College	2,7	0,0	3,7	0,0	0,0	1,3	3,4
Buffalo City TVET College	2,9	0,0	0,0	0,0	0,0	0,6	2,4
Capricorn TVET College	2,9	0,0	5,0	0,0	0,0	1,6	2,1
Central Johannesburg TVET College	2,0	0,0	0,0	0,0	0,0	0,4	4,2
Coastal TVET College	2,9	0,0	1,1	0,0	0,0	0,8	2,7
College of Cape Town	4,5	0,0	0,0	0,0	0,0	0,9	4,2
Eastcape Midlands TVET College	3,7	0,0	0,0	0,0	0,0	0,7	2,6
Ehlanzeni TVET College	4,0	3,0	1,7	3,3	4,6	3,3	2,8
Ekurhuleni East TVET College	4,1	4,4	2,7	2,9	4,6	3,7	3,3
Ekurhuleni West TVET College	3,4	4,8	3,3	3,9	4,2	3,9	3,3
Elangeni TVET College	4,1	5,0	2,0	1,3	4,5	3,4	3,1
Esayidi TVET College	3,0	0,0	1,1	0,0	0,0	0,8	1,7
False Bay TVET College	3,7	5,0	4,3	0,0	0,0	2,6	3,6
Flavius Mareka TVET College	3,6	3,7	2,5	2,0	0,0	2,4	2,8
Gert Sibande TVET College	3,2	5,0	0,6	3,5	5,0	3,5	2,2
Goldfields TVET College	3,0	0,0	2,5	0,0	0,0	1,1	3,0
Ikhala TVET College	1,8	2,9	3,3	2,5	0,0	2,1	1,2
Ingwe TVET College	2,8	0,0	0,0	0,0	0,0	0,6	0,9
King Hintsa TVET College	4,7	5,0	3,4	4,5	4,5	4,4	0,8
King Sabatadalindyebo TVET College	3,9	4,9	0,6	3,0	3,9	3,3	1,2
Lephalale TVET College	4,7	5,0	2,5	0,0	4,9	3,4	2,3
Letaba TVET College	4,8	0,0	5,0	0,0	0,0	2,0	1,6
Lovedale TVET College	2,7	0,0	3,4	0,0	0,0	1,2	1,6
Majuba TVET College	3,7	4,8	4,0	3,1	4,1	3,9	2,0
Maluti TVET College	3,6	0,0	0,0	0,0	0,0	0,7	2,3
Mnambithi TVET College	5,0	0,0	0,5	0,0	0,0	1,1	1,4
Mopani South East TVET College	3,4	5,0	4,1	2,1	5,0	3,9	2,6
Motheo TVET College	3,1	0,0	2,9	0,0	0,0	1,2	2,6
Mthashana TVET College	4,7	5,0	1,1	3,8	4,9	3,9	0,9
Nkangala TVET College	3,2	0,0	0,0	0,0	0,0	0,6	2,4
Northern Cape Rural TVET College	2,8	0,0	1,4	0,0	0,0	0,8	2,2
Northern Cape Urban TVET College	2,2	0,0	0,4	0,0	0,0	0,5	2,2
Northlink College	1,5	0,0	0,0	0,0	0,0	0,3	4,3
Orbit TVET College	4,0	5,0	2,9	1,3	4,8	3,6	2,5
Port Elizabeth TVET College	4,0	4,3	3,1	1,5	3,3	3,2	3,4
Sedibeng TVET College	3,1	0,0	0,6	0,0	0,0	0,7	3,3
Sekhukhune TVET College	2,9	0,0	1,7	0,0	0,0	0,9	1,2
South Cape TVET College	4,0	4,4	2,3	0,6	4,7	3,2	2,7
South West Gauteng College	1,1	0,0	2,5	0,0	0,0	0,7	3,9
Taletso TVET College	2,9	0,0	0,0	0,0	0,0	0,6	2,1
Thekwini TVET College	3,5	4,7	3,2	0,0	4,7	3,2	3,6
Tshwane North TVET College	3,2	0,0	0,0	0,0	0,0	0,6	3,9
Tshwane South TVET College	3,8	4,4	2,5	1,0	4,0	3,2	4,2
Umfolozi TVET College	3,2	5,0	1,2	0,0	0,0	1,9	2,1
Umgungundlovu TVET College	5,0	5,0	1,2	5,0	4,3	4,1	2,5
Vhembe TVET College	3,3	0,0	0,3	0,0	0,0	0,7	1,7
Vuselela TVET College	2,4	4,9	1,3	0,0	0,0	1,7	2,5
Waterberg TVET College	3,3	1,6	3,6	3,5	0,0	2,4	2,3
West Coast TVET College	3,2	0,0	5,0	0,0	0,0	1,6	2,9
Western TVET College	3,1	4,9	1,2	1,4	4,3	3,0	3,1

Legend	Rating
	0 to 2
	2 to 3
	3 to 4
	4 to 5

8. Conclusions and recommendations

The TVET Barometer project provided an opportunity to evaluate current TVET M&E and make suggestions about how current instruments can be modified to enable quick corrective action to improve system functioning and learning outcomes. Although there are data challenges in some colleges, the Barometer that has been developed seems viable and robust enough to provide solid data on the performance of the colleges, and the expanded indicators are empirically driven, based on findings from other research projects on the TVET research programme.

The following recommendations are proposed to take this work further:

- The DHET must address data capacity challenges among some colleges need attention so that credible data is used to make decisions. Addressing data challenges must be a two way process, with colleges also reaching out to DHET to request assistance with capacity challenges
- The DHET should systematically go through indicators, evaluating them for nuancing
- The DHET should implement change management processes to communicate the importance of the Barometer and its usefulness to colleges. Colleges need to buy into the idea of the Barometer for it to be implemented successfully and buy in will increase if the utility of the Barometer is clear to colleges
- Pilot the Barometer systematically with a full data set based on available data, that is, using dimensions that colleges have historically reported on
- Introduce new indicators gradually
- Consider the first few years of implementing of the Barometer as development and refinement of the MVP.

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Appendix: TVET Barometer User Guide

Purpose

The purpose of this document is to guide a user of the College Barometer ("Barometer"). The Barometer seeks to measure performance of colleges using consistent criteria. By using consistent criteria, colleges are measured using the same dimensions and indicators so that a comparison of colleges is equitable, fair and rigorous. The resulting differences in scores can be used as a quantitative basis to understand the differences between the colleges and therefore gain insights into the colleges' performances. The Barometer is data-driven and therefore limits subjectivity in assessing differences in the performance of colleges.

Methodology used to measure college performance in the Barometer: list of indicators

The Barometer uses five dimensions to calculate a performance score. The dimensions are Access, Quality, Responsiveness, Efficiency and Success. Each of the dimensions is an aggregate measure of indicators as follows:

Access	**Responsiveness**
Number of students enrolled in NCV	Number of entrepreneurship initiatives
Number of students enrolled in Report 190/191	Number of partnerships with industry
Number of students enrolled in PLP	Number of students enrolled in programmes relating to OIHD and priority skills
Number of students enrolled in occupational qualifications	Number of artisans exiting a TVET college
Number of students enrolled in trades (COS)	Number of different types of skills programmes on offer
Number of students enrolled in skills programmes	*Number of students enrolled in programmes responsive to the local economy (LED)
Number of students enrolled in Higher Certificate qualifications	*Programmes responding to local economy
***Number of programmes offered in blended mode (Online & Face to Face)**	
***Number of students enrolled in programmes offered in blended mode (Online and Face to Face)**	
***Proportion of students with access to data**	
***Proportion of students with access to connectivity**	

***Proportion of students with access to a device for blended learning**	
***Number of programmes offering evening classes to expand access to students who cannot attend classes during the day**	
***Number of programmes offering weekend classes to expand access to students who cannot attend classes during the week**	
Quality	Efficiency
***Number of programmes that have some components of simulated learning (Where the students perform real world job tasks on a digital platform or in a lab)**	Throughput rate of NCV students who started programme in 2019
***Number of students enrolled on programmes with simulated learning**	Number of Report 191 students in a cohort who complete a trimester
Number of students in campus accommodation	*Proportion of exiting NCV students passing with 40 - 49%
***Number of students in campus accommodation with access control**	*Proportion of exiting NCV students passing with 50 - 59%
***Number of students in private college approved accommodation**	*Proportion of exiting NCV students passing with 60 - 69%
***Number of students in private college accommodation with access control**	*Proportion of exiting NCV students passing with 70 - 79%
***Number of lecturers academically and technically qualified to be TVET lecturers**	*Proportion of exiting NCV students passing with 80 - 100%
***Proportion of lecturers placed in industry for development**	*Proportion of exiting Report 191 students passing with 40 - 49%
***Student: lecturer ratio for NCV**	*Proportion of exiting Report 191 students passing with 50 - 59%
***Student: lecturer ratio for Report 191**	*Proportion of exiting Report 191 students passing with 60 - 69%
***Student: lecturer ratio for Skills Programmes**	*Proportion of exiting Report 191 students passing with 70 - 79%
***Ratio of SSS officials to students**	*Proportion of exiting Report 191 students passing with 80 - 100%
***Number of engineering programmes with workshops**	Proportion of exiting Skills Programmes students deemed competent

***Number of workshops in the college for engineering disciplines**	*Number of programmes offering evening classes to support students who need extra help with their studies
***Number of students per square metre in engineering workshops**	*Number of programmes offering weekend classes to support students who need extra help with their studies
***Number of non-engineering programmes with workshops**	Unqualified audit outcome
***Number of workshops in the college for non-engineering disciplines**	Compliance with governance standards
***Number of students per square metre in non-engineering workshops**	
***Number of students per square metre in theory classes**	
Success	
Proportion of NCV students qualifying for examinations	
Proportion of Report 191 students qualifying for examinations	
Proportion of students of the NCV cohort employed withing 1 year of graduation	
Proportion of students of the N6 cohort in workplace based learning	
Proportion of graduates from NCV engineering employed in engineering jobs related to what they studied	
Proportion of Report 191 students employed in jobs related to what they studied	
Proportion of students on skills programmes employed in jobs related to what they studied	
***Does your college generate third stream income?**	
Does your college have an appointed council?	
Is the council functional?	

Methodology used to measure college performance in the Barometer: scoring the indicators

Each indicator is given a score of between 0 and 5. For each indicator, a college's own target level for the indicator is compared with the college's actual achieved level of the indicator. The actual level achieved level is expressed as a percentage of the target level and a score of between 0 and 5 is allocated as follows:

Actual level achieved, expressed as a percentage of target level	Allocated score
20% or less	From 0 to 1
From 20% to 40%	From 1 to 2

Actual level achieved, expressed as a percentage of target level	Allocated score
From 40% to 60%	From 2 to 1
From 60% to 80%	From 3 to 1
From 80% to 100%	From 4 to 5
100% or more	5

Methodology used to measure college performance in the Barometer: scoring the dimensions

A dimension score is calculated as an average of the indicators. For example, a score for "Access" is calculated as average of scores of the indicators within this dimension.

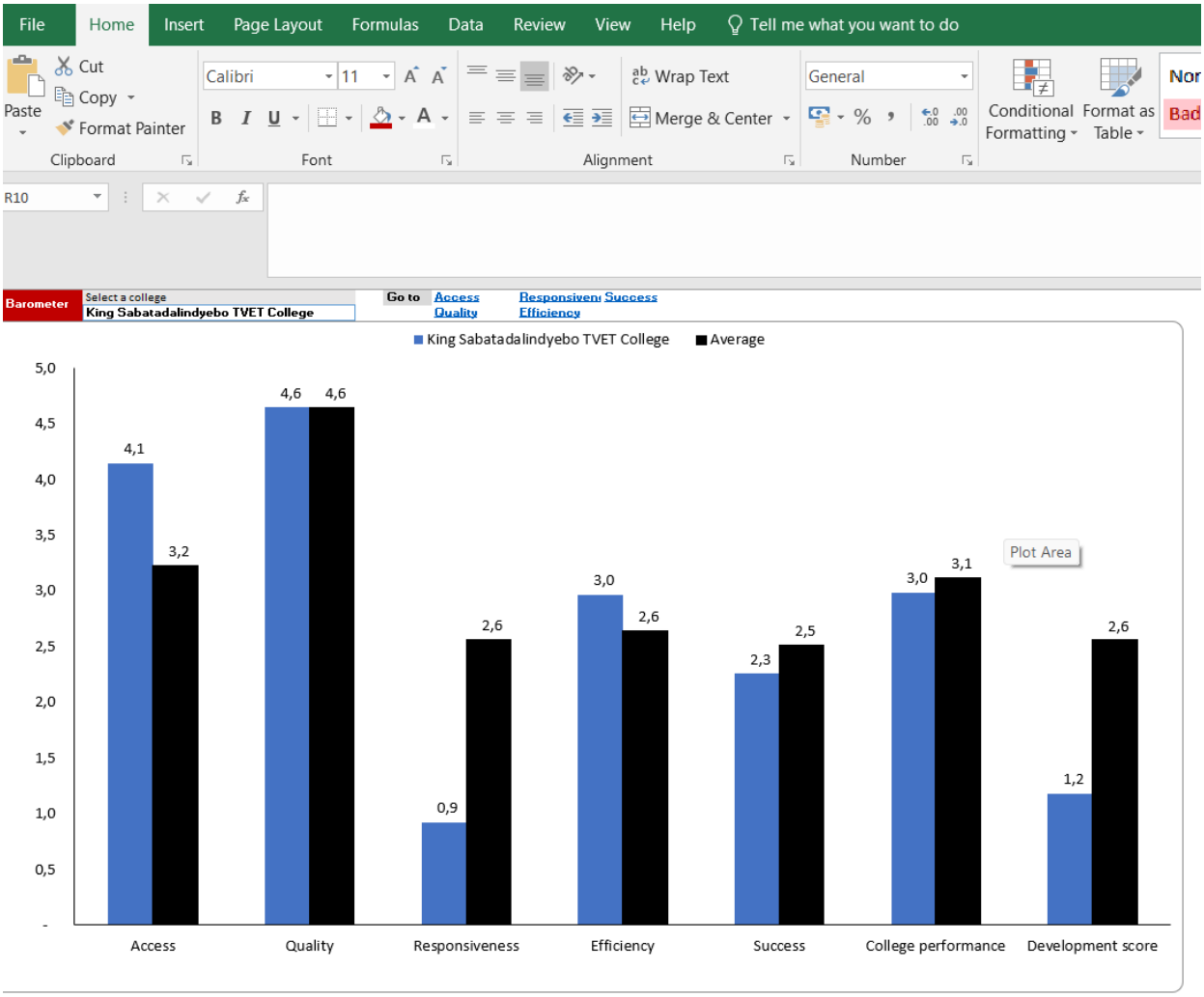
Methodology used to measure college performance in the Barometer: total score

The total score is calculated as an average of the dimension scores. This score is referred to as "College performance" in the Barometer.

Using the Barometer: The Barometer page

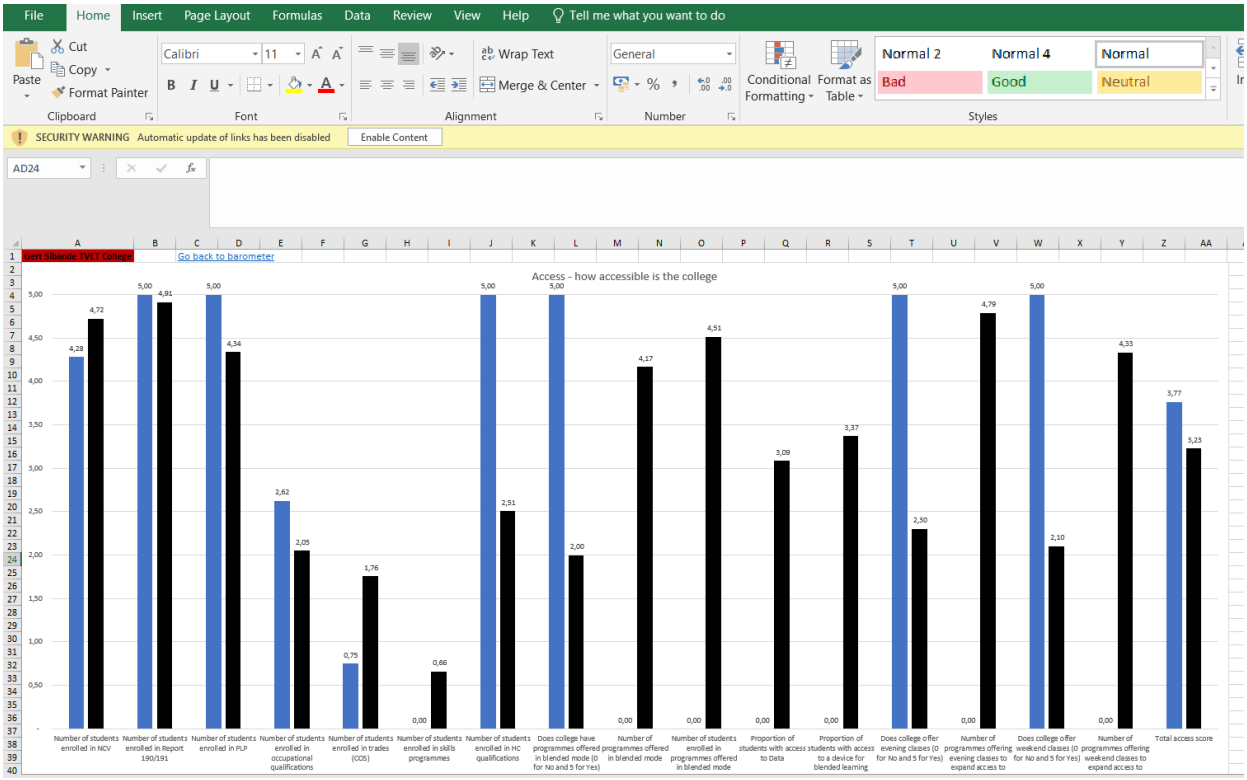
The Barometer page looks like the picture below. The Barometer page shows the "College performance" as calculated by the Barometer using the methodology above. The page also shows the breakdown of "College performance" per dimension. Note that "Development score" is shown alongside the "College performance" for interest's sake. The "Development score" does not form part of the calculation of the "College performance". The "Development score" is as previously developed and presented by Mzabalazo Advisory Services and looks at the external environmental factors within which a college operates. The Barometer also provides functionality to chose college of interest. To change college of interest, you need to select the college of interest under a dropdown list shown in the picture below.

To go to a page showing breakdown of dimension score across indicators, click on the dimension name (with blue font) above the graph, for example, click on Access to see indicators' scores under Access.



Using the Barometer: Dimension page

Once you have clicked on the dimension of interest, the page shows indicator scores as per the picture below. To go back to the Barometer page, click on “Go back to barometer” in blue font as shown in the figure overleaf.



When on a dimension page, e.g. on Access page, you need to click “Go back to barometer” and then client on the desired dimension if you want to go to a different dimension page.

Important information

Scrolling up and down or showing unhidden sheets should not be performed unless the user is an advanced Excel user. The reason is that the Barometer has been developed as a Minimum Viable Product (MVP) and is not user proof. It is encouraged to use the Barometer in the manner explained in this user guide. Advanced users of Excel may be able to “play around” with the tool.

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