UNIVERSITY OF KWAZULU-NATAL

A STUDY OF MAJUBA COLLEGE'S APPROACHES TO UNDERSTANDING ITS LOCAL ENVIRONMENTAL NEEDS, USING SYSTEMIC TOOLS

By

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DECLARATION

I, Renesh Lakhan, declare that

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Signature

To

Malini, Saurav and Akira

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ABSTRACT

Majuba College is a public, multi-campus, technical and vocational, education and training (TVET) college in northern KZN, South Africa, under the auspices of the Department of Higher Education and Training (DHET).

The research question sought to find to what extent Majuba College understands its environment and in what ways has the college aligned with its perceived local markets. The objectives were to determine how the college understands its environment, what would constitute a 'fair' understanding of its environment, and to critically examine the college's understanding of its environment against a 'fair' understanding thereof. Further objectives of the study were to determine to what extent the college is aligned with its perceived markets, and make conclusions and recommendations by reflecting on the findings.

The research question is important because a college that understands the knowledge and skills required in the environment, may use its resources effectively to educate and train students to meet those needs.

The literature review provided a reference of how organisations understand their environments, drawing upon environmental scanning theory, across corporate and educational environments, within local and international settings. The strategic value of environmental scanning in higher educational settings was reflected in case studies and practices.

A qualitative, practitioner-based research approach was used. Focus groups included key internal and external stakeholders. Critical systemic practice was adopted, specifically Creative Holism, wherein the principles of Soft Systems Methodology (SSM), Critical Systems Heuristics (CSH) and the Viable System Model (VSM), were applied to explore the research question.

The research revealed the College's lack of a sustained and structured approach to environmental scanning and its disconnect with the its organisational strategy. Related factors such as leadership challenges and the conflict of marketing roles, are relevant. Recommendations included that the College's environmental scanning be a sustained, strategic activity that feeds into the organisational strategy. A significant recommendation is the use of a Viable System Model used in the design mode, to restructure the college systemically to meet the challenges of the external environment.

Keywords: Environmental Scanning, Creative Holism, Soft Systems Methodology (SSM), Critical Systems Heuristics (CSH), Viable System Model (VSM), Organisational Strategy.

CONTENTS

ACRONYMS

ATR	Annual Training Report
CCF	Colleges Collaboration Fund
CMT	College Management Team
CSH	Critical Systems Heuristics
DHET	Department of Higher Education and Training
DoE	Department of Education
DoL	Department of Labour
ELRC	Education Labour Relations Council
ETD	Education, Training and Development
ETQA	Education and Training Quality Assurance
FET	Further Education and Training
FETC	Further Education and Training College
FETCBU	Further Education and Training Colleges Bargaining Unit
HAI	Historically Advantaged Individuals
HDI	Historically Disadvantaged Individuals
HETMIS	Higher Education and Training Management Information System
HRDS	Human Resources Development Strategy
HSRC	Human Sciences Research Council
ILO	Independent Labour Organisation
NATED	National Accredited Technical Diploma
NBI	National Business Initiative
NCS	National Certificate: Schools
NCV	National Certificate: Vocational
NEETS	Not Employed or Engaged in Training or Development
NQF	National Qualifications Framework

NSF	National Skills Fund
NSFAS	National Student Financial Aid Scheme
OSD	Occupational Specific Dispensation
PPN	Post Provisioning Norms
SAIVCET	South African Institute for Vocational and Continuing Education and Training
SAQA	South African Qualifications Authority
SDA	Skills Development Act
SDLA	Skills Development Levies Act
SEDA	Small Enterprise Development Agency
SETA	Sector Education and Training Authority
SMME	Small, Micro, Medium Enterprises
SMT	Senior Management Team
SOSM	System of Systems Methodology
SRC	Students Representative Council
SSM	Soft Systems Methodology
TSI	Total System Intervention
TVET	Technical and Vocational Education and Training
VSM	Viable System Model
WBE	Word Based Exposure
WSP	Work Place Skills Plan

1. CHAPTER ONE

FRAMING THE RESEARCH

1.1 INTRODUCTION

This chapter frames the research by introducing TVET Colleges (a more detailed account is evident in chapter two), providing the rationale for the study and outlining the problem statement, research question and objectives. It also gives an account of the research methodology and design, how information is collected and stakeholders selected, and the limitations of this work. This chapter briefly reflects on the scope of the literature review, and concludes by outlining the contributions of the research to Majuba College and the TVET sector in South Africa.

1.2 AN INTRODUCTION TO TVET COLLEGES IN SOUTH AFRICA

Majuba Technical and Vocational Education and Training (TVET[1]) College is a public college in the Newcastle area in KwaZulu-Natal, under the auspices of the Department of Higher Education and Training (DHET) in South Africa. All TVET colleges, including Majuba College, offer vocational education and training comprised of formal, nationally accredited programmes, as well as skills courses.

The TVET college sector is subjected to a more detailed examination in chapter two, which highlights two of its significant features: it is a strategic component of the Department of Higher Education and Training, with an intention to contribute to South Africa's skills development and economic upliftment, and secondly, it is a sector that is characterised by complexity, exacerbated by substantial transformation.

It is, however, important to gain an immediate sense of the sector to appreciate the rationale for this research. The TVET college sector, or what was known as 'technical colleges', was originally located within the Department of Education (DoE), and collaborated with the Department of Manpower to primarily provide the theoretical studies component of apprenticeship training for South Africa. Most of the apprenticeship courses were in the engineering field. Technical colleges also provided the semesterised theoretical component of business courses, whereby the in-service component of the qualification was accumulated through workplace experience within the business working environment. The colleges had

[1] The DHET recently (2014) replaced the term "Further Education and Training (FET)" with "TVET", to describe the area of work that public colleges are involved in. TVET was deemed a more appropriate description, and also avoided confusion with the Department of Education's senior secondary schooling, which also uses "FET" to describe its role.

been established through the 'Technical Colleges Act' and had initially been the public sector's leading source of vocational education to help white South Africans to meet the economic aspirations of the Apartheid government.

Chapter two also offers insight into the transformative legislation and practices that prevailed with the advent of the first democratic government in South Africa. The new order ushered in a proliferation of legislation, led by the Further Education and Training (FET) Act (South Africa, 1998a) and subsequent practices to restructure the TVET sector. This included the merging of 152 colleges into 50 large colleges, the centralisation of services and systems, and the transformation of human resources management practices.

Chapter two demonstrates the intention of the South African government, through the FET Act (South Africa, 1998a: 10), to create a coordinated TVET system and transform institutions and programmes that cater for TVET, such that they become more responsive to labour demands and the economic needs of the country. It also offers insight into the expansion of the TVET target market to include the promotion of skills and career education to senior secondary pupils, i.e. TVET colleges provide an alternative stream of senior secondary qualifications referred to as 'National Certificate: Vocational'. The expansion of the TVET scope also takes into account incentives to seek out partnerships and alliances with commerce and industry, and to engage in learnerships and skills programmes. The transformation of the sector is underpinned by an expansionist philosophy, which gave rise to the Education Department's recapitalisation strategy that began in 2005, where resources were bolstered in key areas of TVET Colleges.

Notably, the government's transformational agenda included a series of other related legislative prescripts that impacted on the college sector: The Skills Development Act (SDA) 97 of 1998, and the Skills Development Amendment Act No. 31 of 2003, Skills Development Levies Act (SDLA) 9 of 1999 (South Africa, 1999b), The South African Qualifications Authority (SAQA) Act 58 (South Africa, 1995) and The White Paper for Post-School Education (South Africa, 2013e). The set of legislation enhanced the vision of a growing, vibrant TVET sector that would feed into the National Skills Development Strategy.

Chapter two expounds on the key attributes of the FET Act: the TVET colleges must be responsive to learner needs and local labour markets and develop curricula relevant to the needs of the clientele; accessibility must be increased as well as colleges having multiple

programmes. The need for TVET colleges to be responsive was enhanced by a key legislative amendment of the FET Act that afforded colleges juristic status to take direct control of employment practices of staff.

However, through further legislation, namely an Educator Labour Relations Council's (ELRC) Collective Bargaining Agreement No. 5 (ELRC, 2013), the TVET colleges were repositioned from Department of Education (DoE) to the newly created ministry, the Department of Higher Education and Training (DHET). This included the transferring of the services of all college lecturers from the colleges to the DHET, in effect reversing the decentralised human resources administration (esp. payroll services) afforded to colleges. This adds to the complexity of the TVET colleges' existence. Subsequent challenges, including human resources (HR) issues such as gross skills shortages in key vocational areas and unresolved industrial relations issues, have added to the complexity of the sector.

Majuba TVET College is a typical TVET college, located within the Newcastle area, that conforms to the organisational and policy framework of the DHET, as public colleges in the country should. The National Skills Development Strategy 111 (South Africa, 2012b), for the first time, positions TVET colleges, including Majuba TVET College, as key role players to increase human resources capacities to meet economic needs of the country. The Strategy calls for collaboration between DHET, SETAs (Sector Education and Training Authorities), employers, private service providers and TVET colleges. Hence, it is incumbent on Majuba College to direct itself to increase human resource capacities in its local environment, taking into account the range of possible partnerships, and stakeholders.

1.3 THE PERFORMANCE OF TVET COLLEGES TO DELIVER ON THEIR MANDATE

Public colleges, in general, have proved to deliver poorly on their basic mandate, i.e. quality vocational education and training, as evidenced from poor throughputs and certification rates, qualified audit reports, low employment rates of ex-college students and indifferent and negative perceptions by commerce and industry.

While the problems that colleges face are complex, with symptoms ranging from disconnect amongst internal systems, strategy and its implementation, and factors in the external environment, it will suffice, for now, to reflect on tangible reporting that produced statistical data, namely the DHET Annual Report of 2012/13 (South Africa, 2013b), reinforced with the

National Provisional Presentation/Report for 2012/13 (South Africa, 2013d) as presented by the Director General of Higher Education.

The throughput rate nationally was 42%, or 29,343 of the 70,636 students who had written exams had passed all subjects. In the KwaZulu-Natal province, where this research will be located, the throughput rate was 35%. These figures are exacerbated by the low retention rate of students, i.e. approximately 61% of students, nationally, who registered for the 2012 examination, wrote the exams. In KwaZulu-Natal this figure was closer to 50%. Majuba TVET College's performance profile is not vastly different from the provincial statistics. Its certification rate for 2012 was 38%, the retention rate of students was approximately 65%, and job placements were less than 10%.

The data depicts a failing college sector. This is compounded by the fact that 10 colleges of the 50 TVET colleges in the country, were placed under administration of DHET prior to 2014 (Parliamentary National Assembly, 2014). The need for entities to be 'under administration', as commonly referred to in the public sector, implies the existence of maladministration. In essence, 20% of TVET colleges in the country were dysfunctional in the period leading up to the Parliamentary memorandum (2014), which lends credence to sporadic press releases that have questioned the viability of TVET colleges.

1.4 RATIONALE/ MOTIVATION FOR STUDY

The rationale for this study is that research is needed into how Majuba College can integrate the challenges and opportunities it encounters in its environment with the resources it has available, and show improvement in its traction in relation to its purpose.

Chapter two will offer an overview of the purpose of TVET colleges, giving insight into the DHET's strategic imperatives - a macro perspective. It will also offer insight into how TVET colleges are resourced, reflecting upon funding streams, political will that relates to resourcing and trends relating to government subsidies.

The DHET Strategic Plan (South Africa, 2010), which documents the government's long term plan for public colleges, provides an aerial view of the South African government's intention and its perspective of the purpose of TVET colleges. This is supported by the White Paper for Post School Education and Training (South Africa, 2013e). Numerous government documents, such as the New Growth Path (South Africa, 2011a), emphasise the need for qualified artisans

in the country, wherein projections are quantified. Sector Skills plans indicate the mounting need for skilled workers in vocational and business fields, citing the engineering fields as having the greatest skills scarcities. Hence, there is a strong call for colleges to produce large numbers of qualified students for the skills market.

To realise this vision, the South African government has consistently increased its funding towards the TVET college sector since 2001. The DHET Annual report for 2012/13 (South Africa, 2013b) reflects the total funds appropriated to TVET colleges amounting to almost 10 billion Rand for that financial year, not including a further 1 billion Rand for bursary allocations through the National Student Financial Aid Scheme [2](NSFAS).

The pressing need to raise skills levels, promote entrepreneurship and increase employability to meet local and national needs is articulated in the DHET Revised Strategic Plan for 2010/11 to 2014/15 (South Africa, 2013c). The plan aims to increase student numbers at TVET colleges across the country from less than 500 000, to 1 million in 2015, with a vision of 2,5 million students in 2030 (South Africa, 2013e: 13). The recent growing tensions of communities who demand service delivery from institutions of government have intensified the narrative around the need to lift colleges to address the growing skills shortages that hamper service delivery. It has triggered an urgency in the Department of Higher Education to focus beyond pass rates and student numbers, evident in their Annual Reports (South Africa, 2013b), and their White Paper for Higher Education and Training (South Africa, 2013e).

Majuba TVET College, while aligning itself with the DHET Strategic plan, within the constraints of its proportioned budget allocation, sought to translate the national mandate to local targets, to develop human resources capacities within its region in northern KwaZulu-Natal.

The value of TVET colleges to South Africa is elevated not only by the billions of Rand ploughed into the sector, but the hope for a better life that this sector has grown to represent. Hence, the failure of the TVET college sector, including Majuba College, to deliver on its mandate, as reflected in the Problem Statement to follow, is not only an enormous waste of revenue, but a threat to South Africa's economy and vision of prosperity. Despite the apparent importance of public TVET colleges, there is a scarcity of academic research into this sector, and even less so

[2] The NSFAS Act 56 of 1999 (South Africa, 1999a), provides for the granting of loans and bursaries to eligible students at public higher education institutions. It further provides for the management, governance and administration of the scheme.

when viewed from a business and organisational perspective. Therefore, the sector begs scholarly attention.

1.5 PROBLEM STATEMENT/S

Majuba College educates and trains learners from the local environment, but very few of its state-funded learners are employed or find in-service training opportunities within the local environment[3]. This implies an inefficient use of state resources. The research problem is how to understand why this is so and what has to be done to improve this situation.

The incongruence of the increased resources allocated to colleges, compared to their poor output, constitutes wasteful and fruitless state expenditure, but more importantly, it reveals that public TVET colleges are failing in their role to accelerate the pace at which vocational education is furthered and ultimately the pace at which new entrants enter the labour market. The complexity of challenges, whereby resources, skills and will of a college, like Majuba College, is not clearly translated into employment opportunities in the local external environment of Newcastle, Madadeni, Osizweni, Dundee, and surrounds, is characterised by *wicked problems*[4], and is an outcome of a *mess*[5]. Majuba TVET College's value, like any public college's value, as a selected change agent for its local environment, with the responsibility of combating poverty, creating jobs and lifting the economy, ensures its importance and deepens the need to explore and understand the complexity of the challenges it faces.

1.6 RESEARCH QUESTION

To what extent does Majuba College have a fair understanding of its local environment (including markets and stakeholders), and in what ways has the college aligned itself to its perceived local market?

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[3] The local environment is considered as the geographical area that extends approximately 50km around the college's campuses, which includes Newcastle, Madadeni, Osizweni, Glencoe, Utrecht, Dundee, and surrounding communities. Implicit in the reference to local environments, are the prospects of businesses and services within these environments.

[4] A term coined by Rittel and Webber (1973) to describe problems that cannot be definitively defined, typically embedded in social issues. This concept has since been used in subsequent research fields as diverse as health care (Lavery, 2016) and the politics of policies (McConnell, 2016).

[5] A term coined by systems thinking leader, R Ackoff (1974); messes differ from 'difficulty' in that they have a greater extent of uncertainty, are characterised by complexity (have many interlocking challenges),and outcomes have multiple trajectories.

1.7 INTERPRETING THE RESEARCH OBJECTIVES

In interpreting the research objectives, it is important to grasp the meaning and implications of the phrase 'a fair understanding' as used in b) and c) below. In keeping with 'fair' relating to 'good', 'just', 'reliable' or 'dependable', 'fair understanding' ought to be interpreted as an understanding that is reasonably sound, in this case, in relation to how educational environments ought to be scanned and understood. It will be evident, in the course of this work, that the complexity of the perspectives, its social embedded nature, and competing world views, render the use of a scaling of 'fairness' or 'a reasonable understanding' as superfluous. This work's assessment of what would be a reasonably sound understanding of the local environment would be underpinned by a critical appraisal of respondents' perspectives in comparison with the literature related to the understanding of environments in the context of the college sector's historical, legislative, social and other dynamics.

1.7.1 THE RESEARCH OBJECTIVES

a) To determine how Majuba College currently understands its local environment; implicit in this question is: what are the college's approaches in understanding its local environment; how does it scan its local environment?

b) To determine what would constitute a fair understanding of Majuba College's local environment or markets? Implicit in this question is the need to reflect upon the theory and practice of understanding environments in the context of the TVET college sector in which Majuba TVET College is located.

c) To critically examine how the college currently understands the local environment, compared to a fair understanding thereof. In doing so, identify themes that relate to problematic situations relating to how the college understands its environment.

d) To determine to what extent is the College currently aligned to its perceived environment/markets, in relation to the literature review; i.e. how corporate and educational environments are reasonably understood.

e) To make conclusions and recommendations by reflecting on the findings holistically; recommendations may include arising research that ought to be done, as well as a taxonomy to deal with the problematic situation, and further problematic situations.

1.8 RESEARCH METHODOLOGY

1.8.1 PRACTITIONER-BASED, ACTION ORIENTED RESEARCH

This work is action oriented and practitioner based, where I, the researcher, am the practitioner who uses considered approaches or methodologies drawn from Systems Theory to conduct the research work. It must be borne in mind that this type of practitioner-based work, as will be argued in chapter four, perceives the approaches and methodologies used not merely as tools to determine a set of outputs, but modes of learning and improvement that may be adopted as part of an ongoing cyclical intervention process. Their presence in this work is not momentary, i.e. employed briefly towards the end of information gathering, but pervasive enough to form a foundation on which the research work is built.

1.8.2 SYSTEMS THINKING IN DETERMINING APPROACHES AND METHODOLOGIES

The research draws on the concepts of Systems Thinking, as key components to what is referred to as Systems Theory, as the problems are assumed to be systemic. Systems Thinking, in its basic form, relates to thinking about systems as wholes with interconnections rather than thinking of systems in terms of analysing their parts. This is a breakaway from reductionist philosophy that accepts that a system is only well understood if it is broken up into its discrete components and its function understood by understanding the individual components. On the contrary, proponents of Systems Thinking, such as Ackoff (1971), recognise that understanding the whole gives the greatest understanding of the system, and only when the system is viewed in its entirety, 'emergent' properties are perceived. Authors such as Ackoff (1971), Checkland (1999), Ulrich (1983; 2012), and Jackson (2003) are leading advocates of Systems Thinking, as will be expounded upon in chapter four, and play important parts in this research. Seminal research work by authors such as Flood (2010), Hoverstadt (2010), Reynolds and Williams (2012), Reynolds and Holwell (2010), and Midgley (2010; 2013), have extended or enriched the founding work, and have contributed to this research.

1.8.3 SYSTEMS THEORY

Chapter four provides a review of the fundamentals of Systems Theory that is pertinent to this work. It will reflect the researcher's justification of the use of particular systems approaches, methodologies and methods. A prevailing feature of this work is the elucidation of research related to systems approaches and methodologies used, as it not only provides the context

and tools to explore the problematic situation, but, as will be evident in the closing chapter (chapter six), will be able to provide the context and tools for improving the problematic situation. Hence a section of the Literature Review (chapter three) also relates to a particular Systems Theory approach that has the potential of improving a problematic situation.

1.8.4 CREATIVE HOLISM

Creative Holism forms a significant part of Systems Theory that would be adopted in this research. Jackson (2003) in his work titled "Creative Holism" gives a synopsis of fifty years of systems theories and related methodologies and methods, culminating in his approach, or methodology, of creatively selecting and using different methodologies and methods from various systemic approaches. He develops a methodology of problem-solving derived from Critical Systems Practice, where he adopts a four-stage process (Jackson, 2003: 312): creativity, choice, implementation and reflection. This involves viewing a problematic situation creatively by exploring metaphors and paradigms in which the problem is located, then choosing the most appropriate methodologies and methods, implementing them and reviewing the situation. Principles of Creative Holism have subsequently featured in a range of fields as diverse, for instance, as addressing complexity in project management (Sheffield, Sankaran & Haslett, 2012), school leadership in education (Shaked & Schechter, 2013), and even enhancing intuition and wisdom in decision making through appreciating wholeness (Flood, 2010).

1.8.5 THE IMPACT OF COMPLEXITY OF THE COLLEGE ENVIRONMENT ON THE RESEARCH

In essence, Systems Thinking views problem-solving as improvement seeking located within the interconnectedness of its environment. It acknowledges a problem solver's inability to fully fathom the complexity of his/her environment (internal and external) which is ever changing and unpredictable. Hence, the more complex the environment, the less likely the problem solver is to fully conceive the complexity. His/her understanding of his/her perceived reality will be partial and transient.

The application of the Systems Thinking approach that a researcher or problem solver adopts, depends on the nature of the problem and its environment. It will be further explored, in terms of Jackson's Systems of Systems Methodology (Jackson, 2003: 18), that the problematic environment may range from simple to complex, and its stakeholders may range from unitary to coercive.

This work reasonably assumes that the TVET college sector in general, and Majuba TVET College in particular, are complex environments with challenges that are socially embedded, and stakeholders ranging from pluralist to coercive. The reasonableness of such an assumption crystallises in chapter two, wherein the historical and legislative perspective of the TVET sector is explored, in conjunction with prior research into the TVET sector.

Hence, the research relating to the TVET environment warrants systemic approaches that are strongly constructivist, giving rise to the adoption of a set of methodologies best suited to assist me, the practitioner-researcher, in dealing with the research questions.

1.8.6 AN APPRECIATION FOR THE SYSTEMS APPROACH

The college environment plays a significant role in determining the approaches and methodologies of research. As a practitioner based researcher, I will justify the use of particular systems approaches and methodologies, clarifying why they are useful in the college context, as opposed to the use of other systems approaches. The literature around the philosophy, approach and use of research methodologies or methods should enhance the appreciation for the use of Systems Theory to promote understanding, improvement of problematic situations, and opportunities of learning by multiple stakeholders.

1.8.7 THE APPLICATION OF CRITICAL SYSTEMS HEURISTICS (CSH) TO CRITIQUE BOUNDARIES

In my exploration of my research question, the need to adopt a methodology or approach that critiques boundaries forms an important component of this work. Boundaries refer to the way we frame problems by making assumptions about whom the stakeholders are, who are not stakeholders, and their stakeholding. The approach adopted is Critical Systems Heuristics (CSH) formulated by Werner Ulrich (1983; 1995; 2000; 2010), which constitutes a set of questions asked in two modes: what *is* versus what *ought to be*, posed to a cross-section of stakeholders.

It is acknowledged that Soft Systems Thinking views boundaries as human constructs (Checkland, 1999). This may relate to tangible boundaries such as departments or divisions within an organisation, or geographical placements of subsidiaries. Less tangible boundaries relate to a person's or group's rationale for the inclusions or exclusions relating to a situation. In analysing or critiquing boundaries, a researcher is inevitably drawn into delayering political or social thinking embedded within human reasoning. It may be argued that the strength of

CSH in revealing these boundaries, as well as giving a voice to those stakeholders affected by planning, places this approach as the dominant methodology in this work.

1.8.8 SOFT SYSTEMS METHODOLOGY (SSM)

As a practitioner based researcher, I also identify and use principles of Soft Systems Methodology (SSM), attributed to Checkland (1999; 2011), initially to determine the internal practices and perceptions of Majuba TVET College with regard to understanding its local environment. This is useful in gaining a holistic view of a problematic situation, by surfacing and exploring different perspectives of that situation, as viewed by different stakeholders. This methodology is particularly useful when problems are not clear-cut and practices are varied, and seldom explained by a considered policy framework and work processes. The strength of SSM, in the context of this work, is attaining an understanding of how Majuba TVET College sought to understand its local environment.

I take cognizance of the fact that, within the context of complex problems and pluralist relationships, as related to Systems Thinking, the notion of solving problems completely is not possible. I acknowledge that problematic human situations, or 'messes', a term coined by Russel Ackoff (1974) and embraced by a community of Soft Systems practitioners (Choukroun & Snow, 2015), may be explored and *improved* by the use of methodologies of enquiry. I embrace the Systems Thinking philosophy that seeks to use methodologies to explore, learn, document, review and continue this cycle, leading to improvement of the problematic situation.

Beyond introducing Systems Theory and expounding on the relevant approaches and methodologies, viz. the SSM and CSH, chapter four gives insight into how SSM and CSH assist in attaining research objectives a) and b). I thereby demonstrate the relevance of the use of SSM and CSH; the SSM as more exploratory, the CSH more provocative and emancipatory in its approach.

1.8.9 THE VIABLE SYSTEM MODEL (VSM) FOR DIAGNOSIS AND PLANNING

In a section of the literature review in chapter three, and reinforced in chapter four, objective d) is to be addressed. This entails the scrutiny of the more structural aspects of Systems Theory. I am, at this stage, drawn to employ the Viable System Model (VSM), based on the work of Beer (1959; 1979; 1981; 1985; 1989) to diagnose the extent to which Majuba TVET

College's organisational systems are attuned to the environment. This intent is in keeping with my aim to explore how Majuba TVET College understands its environment and, particularly, the extent to which the college has aligned itself to its local environment. The VSM, developed by Stafford Beer, proposes an organisational structure that is self-regulating with enhanced mechanisms that balance autonomy with control, to achieve improved communication and responsiveness to the environment. I have, in my preliminary work, identified Majuba TVET College having features of organisational design that resemble elements of the VSM. Hence, I intend to use the VSM in a diagnostic mode rather than a design mode during my investigation. At this point, the focus will shift to the structural relationship between the college and its external environment.

1.9 THE LITERATURE REVIEW

The literature review in chapter three gives an exposition of existing scholarly works related to how corporate organisations and educational institutions, particularly colleges, understand their local environment. This is aimed at providing a platform for comparison to critically review Majuba TVET College's practices, and acquire insights into how the college may improve current practices. The literature review also explores scholarly material that critically examines existing research into the South African TVET environment.

1.10 CONCEPTUAL FRAMEWORK

At this point it would be useful to view the conceptual framework that follows (figure 1-1), to gain an overview of how the research objectives were pursued.

Consider each block:

Block 1: Place Majuba College and the TVET sector within their historical, political, economic, social and legislative context.

This starting point proved essential as it provided insights into identifying, understanding and interpreting key themes. My lived experience within the TVET sector contributed towards the compilation of the TVET background.

Block 3: Select systemic approaches to engage with stakeholders to learn about the college's current approach in understanding its local environment and how it uses this understanding.

This addresses the first objective: to determine how Majuba College understands its local environment. I employed tools from Soft Systems Methodology (SSM) to engage with campus-based stakeholders.

Block 4: Select systemic approaches to engage with stakeholders to learn how the college *ought* to understand its local environment, and how it *ought* to use this understanding.

The purpose of this approach was to allow a wide range of stakeholders to provide a vision of how the college ought to understand its local environment. To ensure that the engagement forces stakeholders to reflect on their choices critically, I employed Critical Systems Heuristics (CSH) as a predominant approach. This phase of the research partially addresses the second objective, i.e. 'what would constitute a fair understanding of the local environment?'

Block 5: Critically examine the current practice of the college's understanding of the local environment, compared to stakeholders' expectations of how the college ought to understand its local environment, in the context of the college and TVET sector explored in block 1.

The choice of this approach is prompted by the need to view the respondents' feedback critically by comparing their current understanding of the college's practices in understanding the local environment with their visionary narratives, but in the context of the history of the TVET sector as dealt with in block 1.

The above activities yielded the selection of a set of significant and recurring themes. Given the multiplicity of themes stemming from a complexity of perspectives and challenges within the TVET sector, it was essential that the selection of salient themes be done.

Block 2: Conduct a Literature Review relating to how corporate and educational environments, nationally and internationally, understand their local environments.

The literature review provides secondary research into how environments are scanned and understood. When juxtaposed against the identified themes that relate to the understanding of Majuba TVET College's local environment, it provides yardsticks or references by which current or envisaged practices may be reflected upon. Hence the notion of acquiring a 'fair understanding', as articulated in the third objective of this research, thrives on the literature review providing a basis by which critical reflection of the narratives may occur.

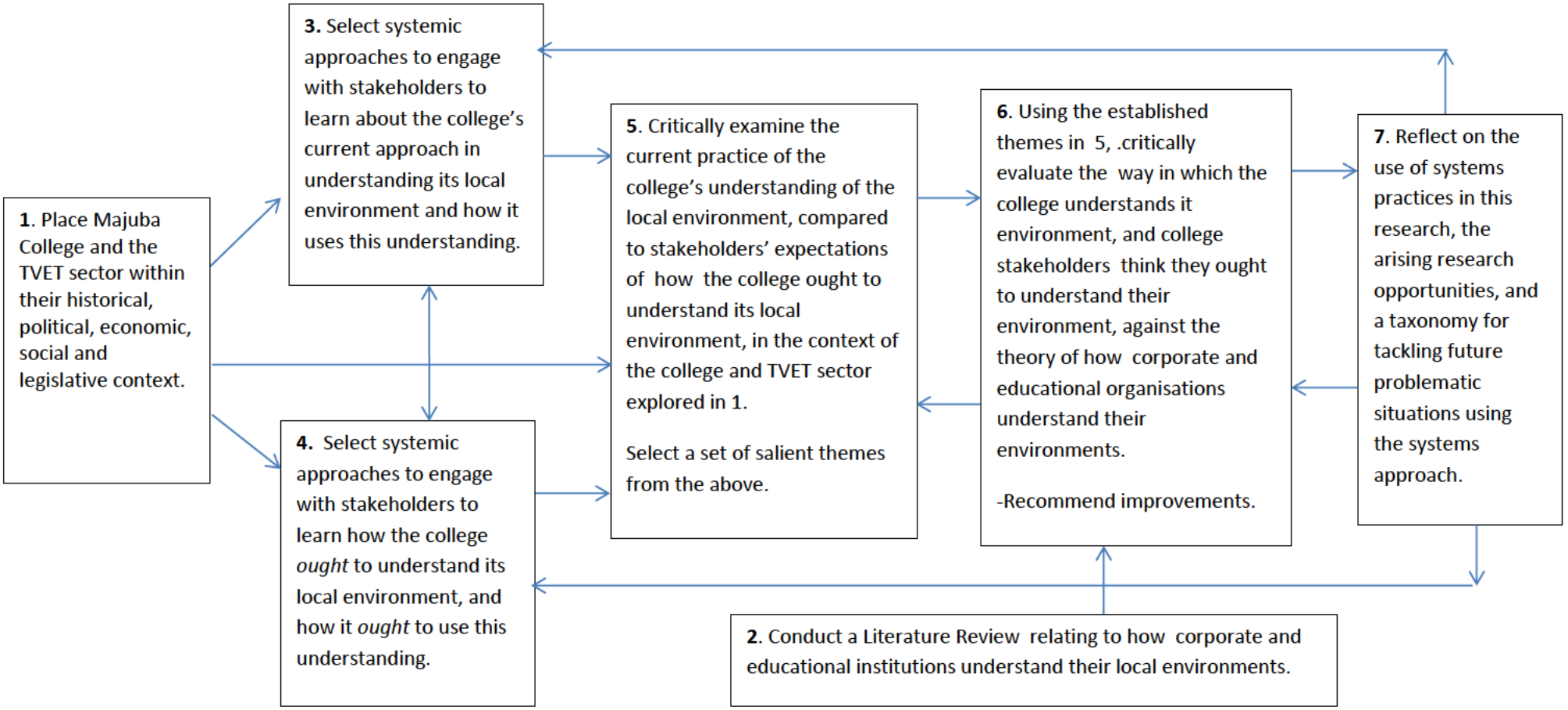
Block 6 critically evaluates the way in which the college understands its local environment, and the way college stakeholders think they ought to understand their local environments, against the theory of how corporate and educational environments are understood. Recommendations to improve are made.

The alignment of the college with the local environment is analysed using a Viable System Model, used in the diagnostic mode, wherein insights into key challenges are revealed and further recommendations made.

Block 7 reflects upon the use of systems approaches used in the research, the arising research opportunities, the deficiencies of this research, and suggestions of a taxonomy or approach for tackling future problematic situations.

The process of engagement, however, is not as linear as the model may reflect. The conceptual framework assisted me in conceptualising my approach to address the research question. The research process was of an action research orientation, where I as the researcher, was actively involved in facilitating the research. I moved to and fro from various stakeholders, structuring models of enquiries and constructing focus groups. I initiated learning as a necessary component of improvement, hence I was compelled to review existing information gathered as the research progressed, and re-engaged stakeholders where necessary. I was willing to allow the research to be driven into a different trajectory if necessary. While the systems approaches that had been discussed briefly, have principally been used, the planned questions, specific aspects of the models of enquiry and the sequence of the work was sometimes adapted, depending on the ongoing insights drawn from the investigation.

Figure 1-1 : RESEARCH DESIGN: Conceptual Development of the Research



(Source: Lakhan)

1.11 ANALYSIS AND COLLECTION OF INFORMATION

The complexity of the college sector constrained the search of approaches to a constructivist paradigm, and hence the choice of 'soft' systemic approaches, methodologies and methods.

Stakeholders were carefully chosen; at times it might have been important for them to be representative of the group from which they were selected, at other times the choice of stakeholders depended on the value they might contribute by virtue of their positions. Focus groups and semi-structured interviews were sufficient when employing SSM. However, the CSH approach involved customising Ulrich's CSH questions to the research objectives.

The overview of the college in chapter two, the legislative prescripts to some extent, as well as my lived experience of the college organisational and reporting structure, assisted in determining the initial round of stakeholders. The above plan was enhanced or adjusted using a snowballing process to sweep in a few omitted stakeholders, such as the chairperson of the Chamber of Commerce and the Marketing Manager.

Ulrich's heuristic questions were adapted to objective a) and b) – these questions formed the core of the semi-structured interviews, used in the 'is' and 'ought' mode of questioning. It was intended that the questions be accessible to all stakeholders, beyond so-called 'experts'. The 'is' and 'ought' mode of questioning led to responses that yielded gaps. This necessitated a critical assessment of such gaps.

The preferred methods were dialogue, using focus groups and semi-structured interviews. The means to collect information reflected an approach that led to deeper understanding; hence dialogue was reiterative and the approach, holistic. The choice of stakeholders was determined by the significance of their roles and their involvement in the areas under scrutiny, rather than the sampling processes that typifies quantitative research. This work is in keeping with the tradition of qualitative research, where the value of relevant relationships are explored, to address the research question and meet the research objectives.

The researcher chose to concurrently engage in a 'rich picture' illustration to holistically capture the discussions, specifically the narratives. The rich picture was adapted and improved after iterations of dialogue and used as a precursor to the semi-structured CSH-based interviews.

1.12 ETHICAL CONSIDERATIONS

The Principal of the College granted a general written consent for the study to be conducted, allowing for the participation of all stakeholders of the college. Notably, this included the engagement of college council committee members who were external stakeholders. Each stakeholder who participated did so voluntarily, giving an individualised written consent to be interviewed, as well digitally recorded.

1.13 SAMPLE/ STAKEHOLDER INVOLVEMENT AND LIMITATIONS

a) I chose both urban and rural campuses and both engineering and commercial studies.

b) The engagement of stakeholders takes into account their involvement in the area under scrutiny. Senior and unit managers are typically involved in engagement with their external environments, as gleaned from their job profiles, but cognizance was also taken of those stakeholders involved in informal roles borne of special delegations and cultural norms.

c) It was impractical to interview large groups of parents and students. Preliminary questionnaires were used and enhanced by focus groups. The selection of a cross-section of parents and students (including the SRC) linked to different types of campuses and different demographical profiles groups, enhanced the opportunities of deeper involvement with the stakeholders, and assisted in establishing authentic relationships.

d) The fact that I, as the researcher, am also an employee of the college, had enhanced the opportunities of working with clients, gaining access to information more easily, and establishing authentic relationships.

1.14 CONTRIBUTIONS TO KNOWLEDGE/RESEARCH OUTCOMES

a) Managers/Stakeholders within Majuba College and its subsidiaries gained an introspective insight into their approaches to understanding their local environment, and the challenges or limitations thereof.

b) The emancipatory approach to information gathering at a local level led to insights that might not ordinarily have come to the fore, such as the marginalisation of groups or stakeholders. This assisted in more accurately contextualising the work of the college.

c) The college ‘planners’ gained an appreciation of systemic approaches that they might adopt to assist in planning and self-evaluation. The use of boundary critique and the views of a wider

range of stakeholders could be useful for planners who now have the opportunity of reviewing their approach to dealing with the local environment.

d) The recommendation of the use of VSM, as reflected in chapter six, to promote purposefulness and viability, would interest HR practitioners engaged in the college organisational design.

e) Given that all public TVET colleges conform to certain baseline characteristics (e.g. compliance to common policies, legislation and norms as well as a basic organisational structure), the research may have value to other TVET colleges in the country.

f) A case study of the innovative use of systems theory methodologies.

1.15 THE LACK OF RESEARCH RELATING TO MAJUBA COLLEGE AND THE TVET SECTOR IN SOUTH AFRICA

It was intended that chapter two provide a historical perspective of the public college sector, particularly in KwaZulu-Natal, to give context to Majuba College. However, there is an absence of scholarly or documentary material relating to critical periods of the TVET college history in South Africa, and even less in relation to Majuba TVET College, or its disparate subsidiaries before and after the merger of colleges. Besides the existence of policy statements and the work of a few authors, such as Akoojee (2009; 2010), I have included my personal account of events in chapter two, as I experienced them, having been a part of the TVET sector, and an employee of Majuba TVET College for twenty-four years.

I had worked as a lecturer and academic manager in two of the initially racially segregated colleges, that predated the merger of colleges. These colleges became campuses of the merged institution, whereupon I was appointed its first Human Resources Manager. I was involved in the transitioning of Majuba College from a splintered, racially aligned set of colleges, to a merged institution. I experienced as well as participated to varied extents, in decisions and events, as the college traversed through legislative changes and acquired greater autonomy as an employer of staff. I was a Campus Manager when the college then traversed through the reversal of such autonomy as it shifted from the Department of Education to the new ministry: the Department of Higher Education and Training. I played various roles: lecturer, Head of Division, Campus Manager, as well as a centrally based Assistant Director (Human Resources) during different stages of the college's turbulent history since the arrival of the new political order in South Africa.

I have insights from an institutional and, to an extent, a regional perspective, owing to various roles I have played within Majuba College, as well as part-time roles and committee work that I have engaged in provincially and nationally. I worked for another college within the KZN province for a year, before being re-employed at Majuba College. Therefore I was able to look back at Majuba College with a new perspective. In documenting the events in chapter two, I have tried to search for my own embedded perceptions that might nuance my interpretation of events. While I did this to the best of my ability, it is not easy as it implies a critical separation of self. Therefore I had interviewed other long-standing staff members, of different designations and roles within the college, with lived experiences during the transitional period, to interpret critical events via a set of semi-structured questions. Their contributions were discussed, debated and integrated into chapter two. The individuals are mentioned in the 'Acknowledgements' section.

1.16 CONCLUSION

In framing the research, this chapter has introduced Majuba College as an entity within the TVET sector of the higher education sector, within a transformative landscape. It has been briefly demonstrated that the college experiences significant challenges in delivering quality vocational education and training. This has given context to the research question and objectives of this work, underscoring the significance of the study.

The systems approach has been introduced as the preferred approach to conducting the research. Its philosophical underpinnings will guide the selection of systems methodologies and methods to be used. The foundational principles of the systems approach will be dealt with more closely in chapter four prior to its implementation in chapter five, which ought to enhance its significance to this work. It is also notable that the use of the practitioner-based approach places me, as the researcher, as an active part of the research process. This, along with the active voice narrative, is a valued feature of action research, especially within the systems tradition. Chapter four will explore the role of the action researcher further, as it seeks to lend insight into my role as an agent rather than an observer.

2. CHAPTER TWO

MAJUBA TVET COLLEGE, WITHIN THE TVET SECTOR OF SOUTH AFRICA, IN PERSPECTIVE

2.1 MAJUBA TVET COLLEGE: A COLLEGE IN TRANSFORMATION

This chapter offers a historical perspective of Majuba TVET College within South Africa's TVET sector, focusing on its changing roles and expectations. In doing so, it accentuates the impact of transformative legislation and practices that may be traced back to the turn of the century, its roots dug firmly in the arrival of a legitimate government in 1994. It will be evident that transformation did not only change the strategic direction of Majuba College, nor for that matter, all TVET colleges in South Africa, but was also accompanied by clashes of philosophies that gave rise to a paradigmatic re-alignment. It will be observed that the pre-1994 period was a period of slow changes, marked by fewer legislative prescripts that impacted on technical and vocational education and training. The post-1994 period is marked by a proliferation of legislative prescripts and practices, which have not remained static. Many prescripts and practices, once unfolded, have been amended, replaced, debated and re-introduced. This created a climate dynamic enough to render the subsequent shifts in attitudes and perceptions within the TVET sector as incalculable. While this chapter seeks to create some understanding of the TVET college sector in South Africa, any such understanding will acknowledge transformation as a central, pervasive characteristic.

It is well documented, from foundational re-worked theories such as McKinsey's 7S (Singh, 2013) to leading systems theorists such as Ackoff (2010), that significant changes in leadership ultimately impacts on almost every aspect of an organisation, from strategy and systems to skills, structure and staffing. Hence it is appropriate that this chapter also explores the college operational environment to proffer an understanding of the strategic composition and structure of TVET colleges, specifically Majuba College. It is the college's institutional dynamics that enables its inextricable relationship with its perceived stakeholders, local communities, and its provincial and national hierarchical tiers. In the closing paragraphs of this chapter, the focus will shift to the local stakeholders and those affected by the plans and practices of colleges.

2.2 TVET COLLEGES DURING PRE-DEMOCRACY

The TVET college sector, or what was known as 'technical colleges', was originally located within the Department of Education (DoE). The DoE administered all public education in South Africa, from primary schooling to tertiary studies (Universities and Technikons or Universities of Technology), including vocational studies (technical colleges).

The mid-century, spanning into the early eighties, was marked by rampant industrialisation in South Africa, giving rise to a need for engineering artisan skills. This led to collaboration between the Department of Manpower and the Department of Education (DoE). The DoE, through the establishment of the Technical Colleges Act No. 104 (South Africa, 1981a), provided the theoretical studies component of apprenticeship training for South Africa, which constituted a nationally recognised set of qualifications. The Department of Manpower ensured that practical training was accomplished through the country's industries; this was concretised in the Manpower Training Act, (South Africa, 1981b). The technical colleges provided education services to assist apprentices to accomplish the theoretical engineering coursework and be examined by the DoE on a trimester basis. The Department of Manpower incentivised industries, through training subsidies, to provide in-service training for those apprentices. This model, for the most part, worked on a 'block-release' system, where the student alternated, on a trimester basis, between full-time studies at a college and on-site training at a company, until s/he met the requirements for trade-testing (a final practical examination for artisanship).

The technical colleges also provided the semesterised, theoretical component of business courses whereby the in-service component of the qualification was accumulated through workplace experience within the commercial sector. While the pre-Democracy DoE did not formally rank the technical qualifications acquired within colleges against a national qualifications standard, it recognised the qualifications as equivalent to senior secondary schooling on the lower end, progressing through the tertiary education barrier, the ceiling qualification being a National Diploma, i.e. the 'N' Diploma.

2.2.1 RACIALLY SEGREGATED TVET COLLEGES

During the Apartheid era, the 'block release' system, with variations that related to the timing of returning apprentices, had been the public sector's leading source of vocational education

and training to skill white South Africans and meet the economic aspirations of the Apartheid government. The roots of a racially disparate apprenticeship system in South Africa may be traced back to the Apprenticeship Act (South Africa, 1922), which secured the positions of unionised white workers by setting high educational qualifications for apprentices in several trades. This effectively led to the exclusion of black apprentices, to whom these educational requirements were relatively unrealistic (Gamble, 2003: 9). Blacks had to contend with inferior educational opportunities, wherein a form of 'industrial education' was available to them. This was interpreted as a level of training and skill that was basic, and not coupled with a strong theoretical component (Chisholm, 1992: 3). The focus was on the acquisition of practical skills with little theoretical insight.

The first significant indication of a shift in legislation that may be deemed to favour black apprenticeship, materialised in the early eighties. During this period, the rampant demand for artisans in the country outstripped its supply, whereupon the Apartheid government began viewing the education and training of black apprentices in technical colleges favourably. The Technical Colleges Act (South Africa, 1981a), served as a leading source of legislation for the Technical College sector. It may be argued that while the Technical Colleges Act, in itself, did not prohibit the inclusion of blacks, the raft of Apartheid legislation prevalent during that period ensured that all policy practices carried its segregationist philosophy, often relegating blacks to diminished and inferior resources. In line with the Apartheid policies of racial segregation evident in several Acts, viz. the Separate Amenities Act No. 49 (South Africa, 1953), the Group Areas Act (South Africa, 1950a), the Population Registration Act (South Africa, 1950b), separate technical colleges were established for Blacks (Africans, Indians and Coloureds) in the country. This arrangement was fortified by a political dispensation in 1983, essentially an amendment to the South African constitution, giving rise to the Tricameral parliament (Behrens, 1989). The new parliament contained an administration body titled The House of Assembly – a public service for the white population - but also ushered in administrative government departments for Coloureds and Indians, i.e. House of Representatives and House of Delegates respectively, albeit with curtailed powers. It was expected that racially aligned Departments administer and deliver services to their own racially defined groupings. This included the administration of Education Departments. In line with this legislation, the establishment of technical colleges was racially segregated across the country.

Prior to 2001, there were 152 technical colleges in the country, 21 of which were located in the province of KwaZulu-Natal (KZN). In the larger KZN settlements, it was common for more than one college to exist, each college controlled by a separate, racially segregated Education Department, i.e. for Whites, Africans, Coloureds and/or Indians. These institutions might have existed within a radius of less than 20km. Majuba TVET College presents a typical example. Before the merger of the colleges that led to the Majuba TVET College in northern KZN, the individual ex-colleges, i.e. Newtech Technical College, Madadeni Technical College and St. Oswalds Technical College were within a radius of less than 20km from one another, two of the colleges being less than three kilometres apart.

While it might seem reasonable to assume that the Apartheid government extended TVET to blacks in an effort to meet the demands for artisans in the country, Ntshoe and Holzbaur (2012: 151) drew on the work of Odora-Hoppers (2010), in suggesting that TVET was part of 'the grand Apartheid ideology of ensuring that blacks remained hewers of wood and drawers of water'. The intention of ensuring that colonised people were resigned to subordinate work – manual work that focussed on crafts, agriculture and maintenance - is best supported by the job reservation practices of the Apartheid government. Jobs of higher skills were reserved for white South Africans. On reflecting on the crass multiple racial divisions of the Education system - about 128 technical colleges were administered by 10 racially segregated education departments during Apartheid (Akoojee, 2010: 268) - the duplication of facilities, inequitable distribution of resources and uneconomic location of campuses characterised a system preoccupied with racial segregation rather than focusing on efficiency and effectiveness.

Hence, it is argued that the enormity of the effort and resources used to segregate vocational education racially is traced from a historical narrative of subordination, as implied by Ntshoe and Holzbaur (2012: 151), which coalesces to mar the image of vocational education as that which leads to less dignified work in South Africa. Akoojee (2010) affirms that 'the locational disjuncture masked the ideological positioning that suggested that vocational education provision for black South Africans (African, Coloured and Indian people) was presumed mainly to prepare them for work appropriate to, and defined by, the colour bar.'

However, notions of this ideology being carefully implemented lose momentum towards the mid-eighties. The differences in TVET between white and black colleges were primarily the funding, infrastructure and support and post TVET employment opportunities. This implies

that the quality of services and opportunities of TVET across racially segregated colleges was distinctively impacted. This might have reduced the quality of teaching, learning and accessibility of TVET education to blacks, but the curriculum requirements and final examinations remained standardised across the TVET sector. It is therefore not surprising that the DoE (South Africa, 2001b) of the post-1994 democratic government gazetted a plan of restructuring of the higher education system, targeting unequal access and racially fragmented education systems as key challenges. Existing curricula, however, were maintained and assessments were standardised across the TVET sector.

White colleges were classified as 'State Colleges' while non-white Colleges were 'State-Aided'. The Colleges Collaboration Fund research report (Powell & Hall, 2000: 45), in referring to the distinction between the above colleges as Historically Advantaged Institutions (HAIs), and Historically Disadvantaged Institutions (HDI) respectively, draws attention to the fact that the HDIs comprised 56% of the sector, and their pass rates and throughput rates were significantly lower than the HAIs.

While the peculiar reasons that contribute to the differences in standards may be debatable, it is without a doubt that the administration of the racially segregated colleges was similar in many principles of public administration but markedly differentiated in the allocation of resources. Both HDIs and HAIs based their staff establishment on norms and standards. A staff establishment refers to the number of educators and administrative staff allocated to an institution, specified in terms of post categories or levels, whose salaries may be funded by the relevant DoE. The staff establishment depended on the college's enrolment figures or full-time-equivalent (FTE) students. The post provisioning norms (PPN), amongst other provisions, guided the determination of the staff establishment at an institution, gleaned from the institution's tally of weighted FTEs against stipulated educator: learner ratios. Programme and subject offerings were weighted, depending on the resources each required; those requiring greater resources and supervision were weighted higher. The principles and mechanisms of funding were applicable to both HDIs and HAIs.

While norms and standards may have been standardised across state (HAIs) and state-aided (HDIs) colleges, the stringency in the application of those standards depended upon the budgets allocated to colleges. As would be expected within the Apartheid led government, the budgets of HAIs were prioritised, with greater attention to capital budgets, over and above

subsidies to cover operational costs. For HDIs, the tradition of relatively lower budgets and higher demand for TVET education from the larger communities they served, trammelled these colleges into drastically increasing enrolments of entry-level classes. This resulted in challenging educator- learner ratios in order to balance their budget allocations against the norms and standards.

2.3 RATIONALISATION OF THE TVET SECTOR DURING THE NINETIES: THE MERGER OF COLLEGES

During the post-Apartheid period of the nineties, the Department of Education, under a new democratic government, embarked on restructuring public colleges.

The Technical Colleges Act No. 104 (South Africa, 1981a) was repealed, replaced by the Further Education and Training (FET) Act (South Africa, 1998a), which articulated its transformational vision of creating a responsive coordinated Further Education and Training system. The realisation of this vision was given impetus by the subsequent New Institutional Landscape document (South Africa, 2001a) which proffered its plan of restructuring the college sector, collapsing the technical colleges into 50 public TVET colleges. This began with the merger of 152 technical colleges within the country, into 50 large colleges, each having several campuses. Mergers provided the strategy for the government to achieve key transformational reforms. They sought to address the structural social inequities borne of Apartheid, as well as ensure that limited state resources are used more effectively and efficiently.

Technical Colleges of reasonably close proximity were merged. Uneconomical education and training campuses were closed, and their staff absorbed into the new institution. Skills centres, previously under the auspices of the Department of Labour, were either merged with the colleges or closed down, depending on the feasibility to sustain them. Each TVET college in KZN was the result of the merger of 2 to 5 local colleges in a demarcated zone in keeping with the New Institutional Landscape for FET Colleges (South Africa, 2001a: 12). A TVET college would therefore be a ‘supercampus’, with a Central Office, generally commanding over two thousand Full-Time Equivalent (FTE) students. It was envisaged that the TVET sector would be key to the delivery of education and training of unemployed adults, school leavers and lifelong learners.

The merger of technical colleges in the new order was fraught with challenges, not simply

because of the perceptions of the losses of privilege experienced by the former State Colleges, but more so because of the varied perspectives of several role players who had previously scarcely worked together (Hardman, 2013: 29; Mestry and Bosch, 2013: 145-6). The findings of Mestry and Bosch (2013), who had focused on the conflict arising from the merger of technical colleges during the transitional period of the late 90s, included the lack of key soft skills as debilitating factors that led to challenges, i.e. the lack of conflict management skills, poor communication, and lack of participative decision making amongst leaders and managers. Mestry and Bosch reflect on the impact of the findings, expounding on the paradox of these institutional shortcomings against the enormity of the requirement for change: essentially a paradigm shift. The resistance to change, fear of job losses and a perceived threat to the future of TVET institutions have been described as inevitable consequences of internal leadership and management shortcomings.

These findings take on a stronger focus when viewed within the context of Hardman's (2013: 53) assessment of the restructuring as that which required individuals to 'find their feet in a new institutional reality without a shared institutional memory and culture'. He draws upon complexity science in expressing the lag in individuals coming to terms with change, while their uncertainties persist because it takes time for 'a new equilibrium to emerge'.

Beyond the direct impact of the FET Act and the New Institutional Landscape for FET colleges on public colleges, other changes in the education and training landscape also impacted on the college sector. The closing down of Training Boards were being replaced by Sectorial Education and Training Authorities (SETAs) in terms of the Skills Development Act (South Africa, 1998c), while the South African Qualifications Authority (SAQA) had come into being through the National Qualification Framework (NQF), Act 67 (South Africa, 2008). The NQF advocates a hierarchy of qualification levels onto which qualifications within the country are and may be aligned.

The following commentary elaborates on the key pieces of legislation and their impact on the college sector, particularly during the transitional period.

2.3.1 THE FURTHER EDUCATION AND TRAINING (FET) ACT 98 OF 2008 – THE BEDROCK OF THE TRANSFORMATIVE LEGISLATION FOR COLLEGES

The main objective of the FET Act (South Africa, 1998a: 10) was to create a coordinated TVET system, and transform institutions and programmes that catered for TVET, such that they become more responsive to labour demands and the economic needs of South Africa. It's vision for development included 9 areas (South Africa, 2001a: 16-20): the establishment of large, multi-site institutions, increased autonomy, a mixture of specialisation and multipurpose institutions, high quality, an increased focus on access to previously disadvantaged groups, better articulation and collaboration with higher education and the development of partnerships with government and the private sector.

The need for transformation, especially responsiveness, was the result of the most comprehensive and robust research activities into the TVET sector during 1998, 2000 and 2002 published in the Human Resources Development Review of 2003 (Fisher et al., 2003) and re-examined by Akoojee et al. (2008). This included provincial analyses of colleges as well as labour market reviews by the Human Sciences Research Council (HSRC) and National Business Initiative (NBI), through the Colleges Collaboration Fund (CCF). The results reflected a sector disconnected with industry and commerce.

Interestingly, if the research question: 'to what extent does Majuba College have a fair understanding of its local environment? Or how does it gather its information from its local environment?' were framed during the 2003 review, the research was bound to reveal a stark disconnect between provincial labour needs and college practices. This would be expected owing to the absence of a mature college Central Office with marketing and college research functions during that period, making intellectual and physical resources a persistent challenge. One would imagine that improvements to the situation would have also been a challenge owing to the irregularity of holding educators accountable for fulfilling what is essentially a corporate responsibility.

The HRD Review of 2003 also revealed the racialisation of the TVET sector had led to a fragmented sector, with duplication of services and lop-sided distribution and usage of resources. Hence, it may be argued that the thrust of the FET Act and the New Institutional

Landscape for the Public Further Education and Training Colleges (South Africa, 2001a) was to deracialise the sector in its pursuit to achieve its nine-point vision for development.

2.3.2 THE SKILLS DEVELOPMENT ACT (SDA) 97 OF 1998, AND THE SKILLS DEVELOPMENT AMENDMENT ACT 31 OF 2003

The Act aims to provide an institutional framework to formulate and implement national, sector and workplace strategies to develop and improve the skills of the South African workplace (South Africa, 1998c). It compels all training providers to register with an Education and Training Quality Assurance (ETQA) body and each trainer will have to be registered as an Education and Training Development Practitioner (ETDP). An important aspect of this legislation is to encourage the participation in learnerships and other training programmes. A learnership is a full qualification based on the agreement amongst the learner, employer and training provider. It incorporates both skills training and theoretical learning.

The Act also provides for the establishment of Sector Education and Training Authorities (SETAs) for several national economic sectors, which replaced the Training Boards, and changed the nature of training accreditation. The SETAs were tasked to develop sector skills plans, establish learnerships and allocate grants, amongst other functions.

2.3.3 THE SKILLS DEVELOPMENT LEVIES ACT (SDLA) 9 OF 1999

The SDA incorporates the Skills Development Levies Act (SDLA) which ensures that money is spent on training. While the SDA describes the principles and structure of skills development in South Africa, the SDLA outlines the funding strategy of skills development. It describes how money is collected through levies paid by employers. The Skills Development Levies Act compels companies to pay 1% of their payroll towards education and training, via the Receiver of Revenue, to the National Skills Fund and relevant SETAs. Employers who meet certain conditions may claim proportions of their money back in the form of tax rebates. Those conditions include the compiling and implementing of Workplace Skills Plans (WSPs), and the reporting thereof. This incentive encourages employers to provide training to employees. In this way, it aims to create a training ethos within South African businesses.

2.3.4 THE NATIONAL QUALIFICATIONS FRAMEWORK ACT (NQFA) 67 OF 2008

This Act aims to improve the quality of education and training at all levels in the country and relates closely to the economic growth and national development strategy of South Africa. It aims to achieve this by the creation of a single, unified system of education and training qualifications in the country and the creation of institutions to ensure that these qualifications are quality assured.

The Act provides for the National Qualifications Framework (NQF). The NQF is a ladder type framework that provides for the registering of all possible learning and career paths. The South African Qualifications Authority (SAQA) is tasked with registering qualifications and standards on this framework and ensuring the implementation of the NQF. A learner's qualifications may be registered on one of its ten NQF levels. The qualification reflected by each level enhances career paths, portability, articulation and flexibility between economic sectors. The NQF is therefore also a means of implementing and promoting lifelong learning by maintaining records of learning for each learner, irrespective of the delivery system used. The NQF Act also promotes and provides for the Recognition of Prior Learning, where learners' skills are assessed and recognised despite not having formal qualifications. These assessed credits and qualifications are placed on the appropriate levels of the NQF.

2.3.5 AN OVERVIEW OF THE EFFECT OF SDA, SDLA AND NQFA ON THE IMPLEMENTATION OF THE FET ACT AND ITS IMPACT ON THE TVET SECTOR, PARTICULARLY DURING THE MERGER OF COLLEGES

The FET Act (South Africa, 1998a) clearly articulated the need for colleges to seek alternative sources of funding and engage in partnerships and form linkages. The SDA, SDLA and NQFA presented both the prospect of colleges to seek funds, and the obligation of colleges to align their non-DoE programmes to the relevant Acts. This alignment implies that colleges would have had to ensure that processes were set up for engagement of external stakeholders, the capitalising on SETA funding, and that college non-DOE programmes conform to SAQA requirements. Even prior to the amendment of the FET Act in 2006, which provided for the devolving of responsibility of the employment of the college staff to respective TVET colleges (South Africa, 2006: Section 20), the colleges, including Majuba College, had already been

employing staff directly to work in non-DoE programmes. Colleges were obliged to do this owing to the DoE principally not funding non-DoE programmes that were funded through the SETAs, referring to such a practice as *double-dipping*. It was hence expected that colleges adopt business models to collaborate with employers and obtain funding from SETAs or bid for discretionary grants. Therefore even before 2000, many colleges had a growing base of college paid employees, specifically those who were involved in the teaching and administration of non-DoE programmes, borne of the new legislative framework. Majuba College itself had already settled into its role as employer and paymaster before 2006, subscribed to an established payroll system and hired dedicated staff to oversee employment matters. The need for managers in all colleges, essentially educators, to refocus their professions through a corporate, capitalistic lens was essential. This reinforces Mestry and Bosch's (2013) view of the need to construe the changes during the merger and post-merger period as paradigmatic.

2.4 NEW CURRICULUM, RECAPITALISATION AND IMPLEMENTATION OF NEW SYSTEMS

The introduction of a new curriculum: The National Vocational Certificate (NCV) in 2001 added to the complexity of changes within the post-merger colleges. The curriculum provided an alternate stream of secondary school education, specifically vocational. The course was vastly different from the National Technical Education (NaTED) 'N' or Report 191 programmes that the current staff at TVET colleges were used to. It was annualised rather than trimesterised or semesterised, it contained fundamental subjects (English, Mathematics and Life Orientation) which college lecturers were not trained to deal with, and demanded mandatory in-campus practical work that constituted approximately 50% of the core subjects. A significant difference was that its main target was school pupils who completed grade 9, drawn from the mainstream education sector, which was typically adolescent (Gewer, 2010: 13). This market presented its own challenges; younger learners needed greater attention in areas of student control, discipline and meticulous administration of evidencing of teaching and learning. This situation was, and still is, made more difficult by the target market faced with the choice of either remaining within the mainstream school or changing to a TVET college to continue an equivalent, vocational syllabus, i.e. the NCV. The impact of the inevitable competition between mainstream schools and TVET colleges is compounded by the schools having a direct influence on the college target market, as they are best placed to advise potential students and their parents. The extent and impact of this influence would be deliberated in later chapters,

following the primary research activities.

The introduction of the NCV curriculum was followed by a recapitalisation plan by the Department of Education in 2005, where individual colleges were provided with funding to drive infrastructural projects such as new workshops and classrooms, to realise the NCV curriculum needs. Akoojee et al. (2008: 125) acknowledge the deliberate involvement of the national government in the TVET sector in 'ringfencing' R1,9 billion Rand, in a period when the ultimate responsibility for TVET colleges was the provincial government. This action reinforces the commitment of the then President of the country, Thabo Mbeki, who, in his State of the Nation Address on 9 February 2007 (South Africa, 2007) raised the importance of the TVET colleges' recapitalisation process in expanding the number of artisans to contribute to the country's economic development. He emphasised his pledge of allocating bursaries to young people to realise the TVET vision. He further clarified his commitment to prioritising colleges in a post-State of the Nation interview, announcing that 'the most important initiative is the recapitalisation of FET colleges and everything associated with that.'(South African History Online, 2007).

The recapitalisation initiative included the setting up of infrastructure to create the corporate identity of the TVET college, i.e. its central office, as well as ensuring that its defined substructures, replicated across all colleges, be firmly established. These included the establishment of compulsory departments, namely Finance, Human Resources and Development, Student Support Services, Higher Education and Training Management Information Systems (HETMIS), Curriculum services, Marketing and Communication, and Quality Management Systems. These were considered in the formation of a central administration building (central office). It was the intention of the DoE to establish a set of standardised institutional systems across all TVET colleges within the country.

The recapitalisation funding also catered for human resource development within colleges, ensuring that staff was re-trained or capacitated in NCV related areas of the curriculum. Of the initial allocation of 49 million Rand for Majuba TVET College, 4 million Rand had been used for human resource development, and this budget had been extended in later years to include staff professional development. The recapitalisation funds had to be used within its allocated timeframes, implying that the rollover of funds into the next financial year was impermissible.

Therefore colleges had to be expedient and expeditious in ensuring that they meet recapitalisation targets, notwithstanding that most of their human resources comprised of educators, many inexperienced in corporate affairs, and most of their central office systems were fledgling.

2.5 DECENTRALISATION OF THE EMPLOYMENT AND MANAGEMENT OF SERVICE CONDITIONS OF STAFF FROM THE DEPARTMENT OF EDUCATION (DOE) TO THE PUBLIC COLLEGES

In the wake of above changes, the amendment to the FET Act was promulgated in 2006. It proclaimed the devolution of responsibility of the employment of staff from the state to the TVET colleges. This will be reflected in the successive paragraphs from a change management perspective rather than an economic perspective, as it led to instability of the employer-employee relationship. While it is soundly reasoned that the devolution of responsibility served to increase the colleges' responsiveness to local labour markets (Gewer, 2010: 6), it also led to differentiated salaries and benefits across the sector. Top-ups and differentiation in post structures owing to specially created posts were rife. As Akoojee et al. (2008: 125) observed, this devolution of responsibility might contradict equity considerations. The subsequent strengthening perceptions among employees of possible job losses and unfair treatment, is well elaborated by Mestry and Bosch (2013). Perceived inequalities, which included the fear of the loss of government employment benefits, were evident in the decisions of staff members to not be part of the body of staff members transferring to the college (this group was colloquially referred to as 'remainees' by DoE). They opted to rather be absorbed into the mainstream school sector. The legal processes that related to transferring staff from DoE to their respective colleges had elaborate labour relations ramifications, and the handling of the 'remainees' was fraught with uncertainty. The DoE had not prepared themselves for the prospect of dealing with 'remainees', who were not trained to work in mainstream schools. The remnants of the transfer process exist in labour relations disputes that have continued into the next decade since the introduction of the FET Act.

Gewer (2010: 14) reflects on the sudden loss of expertise owing to the large number of remainees. The mistiming of this misfortune was compounded by the shortage of potential recruits of skilled engineering lecturers, who are essentially artisans wishing to pursue a lecturing career. Recruitment of staff was threatened by skills shortages across the country,

which was exacerbated by lower salaries of lecturers in comparison to artisans in industry, the lack of recognition of prior experience which is related to the absence of an Occupational Specific Dispensation (OSD), and lack of stability within the TVET sector. The resultant practice within colleges in many cases was compromised appointments, temporary or short-term contracts, and in most cases, large numbers of vacancies. The compromised appointment of staff is evident in a survey concluded in 2010 (Gewer, 2010: 16) which revealed that 33,5% of public college lecturers had no technical qualifications. The college sector would have to wait until 2010 for salary discrepancies to be partially addressed, by the implementation of Collective Bargaining Agreement 1 of 2010, by the Further Education and Training Collective Bargaining Unit (FETCBU), which sought to revise the college salary structure as well as recognise and credit educators with previous college experience.

It may be argued that the college sector had hardly shown any signs of settling down the decade that followed the merger of colleges. This may be attributed to a flurry of ongoing changes. In 2008, the college sector was affected by the phasing out of NaTED programmes; concerns were raised within the engineering sector as to whether the supply of college graduates would be constricted (Gewer, 2010: 11). During this period, the NCV was plagued with poor performance, where of 26 451 students who enrolled into the entry level (Level2), only 4991 enrolled to write the Level 4 exit examinations in 2009 (Gewer, 2010: 11). The double-pronged threat of the phasing out of the NaTED programme set, essentially the sector's cash cow, and the failure of the NCV programmes, undermined the credibility of the sector. The subsequent growing consternation and employee fears of job losses owing to diminished student numbers were expected, and a throwback to the earlier years of the merger of colleges.

In 2009, the NaTED courses were reinstated. Following a national general election in 2009, and what is arguably a revised political dispensation, the Education Ministry was separated into two Ministries, one for General Education, encompassing primary and secondary mainstream schooling, the other for Higher Education and Training, that encompasses all post-school education, including Colleges, Universities and Continuous or Life Long Learning. Significantly SETAs were relocated to the Department of Higher Education and Training (DHET). While the succeeding paragraphs will reflect on the impact of these changes, the most important subsequent outcome was Collective Bargaining Agreement No. 5 of 2013 (ELRC, 2013). It

decrees the transfer of public FET College lecturers from the colleges to the DHET, in terms of a College Amendment Act No. 3 of 2013 (South Africa, 2013a). This is construed to be a reversal of the previous post-merger transfer of staff from DoE to the colleges. This once again set off the legal processes of the transfer of staff, and the subsequent labour related challenges.

2.6 THE CHALLENGE OF NOMENCLATURE AND ITS IMPACT ON THE TVET SECTOR

Akoojee (2009) links ineffectiveness of TVET colleges during the pre-2009 period, with its nomenclature within the government hierarchy. He reflects on this era where the TVET sector, together with the Senior Secondary Mainstream School Sector, was a part of the FET Band, within the Department of Education. He posits the view that the positioning of the fledgling TVET sector together with the more established Secondary Education sector as well as the tertiary sector (Universities and Universities of Technology), led to a second class treatment of the TVET sector. Akoojee highlights the fact that the Provincial Departments were tasked with TVET implementation, yet jointly tasked with ensuring the success of the secondary schooling exit level, i.e. the National Certificate: Schools (Matriculation) – a coveted national qualification steeped in tradition and sentiment. This was detrimental to the success of TVET colleges, which ensured their neglect and status as 'second class in the tertiary sector'.

The TVET sector would have to deal with the challenge of being dwarfed by their mainstream counterparts for almost a decade, from the initial draft of the FET Act prior to 2000 to a new dispensation of the Act in 2013. During this period, the TVET sector's struggles to attain equal recognition with their DoE counterparts is best exemplified by the colleges' attempts to seek equitable benefits and recognition compared to the school sector. Specifically, the colleges requested the payment of Occupational Specific Dispensation for their staff, i.e. a salary adjustment that recognises the scarcity of educators in the public service. While individual colleges had the autonomy of awarding higher salaries by virtue of the amendment to the FETC Act 16 of 2006 (this amendment granted employment status to colleges), they were hamstrung by tighter budgets that prevented colleges from offering customised salary packages based on skills scarcities and industry benchmarks. The legal autonomy of colleges to offer their own salaries, viewed against their leaner budgets, constituted a bitter irony. Most colleges could not offer more than DHET benchmarked salaries. However, when they did, it was undermined by the inconsistency of such practices across colleges.

2.7 ECONOMIC IMPACT ON TVET COLLEGES DURING THE EIGHTIES AND NINETIES

The impact of international politics took its toll on South Africa's economic activities during the mid to late eighties. The protest against Apartheid policies by various countries of different political persuasions, had led to South Africa's increasing isolation from the international community. While economists are torn over the role of economic sanctions alone on South Africa's economy, there is unanimity in the view that the combination of disinvestment, economic sanctions, and the country's internal destabilising strife, marked the shrinking of its once thriving industrial markets, leading to cutbacks in manufacturing and exports (Levy, 1999). The demand for artisans contracted for the first time in the country's Apartheid history, and student placement in private companies, slowed. In the Human Resources Development Review of 2008 (Akoojee et al., 2008: 254), Akoojee notes that the wave of cutbacks of artisan production continued into the period of the transition to a democratic order in 1994.

2.7.1 THE IMPACT OF GLOBALISATION ON TVET COLLEGES

Coincidentally, the dawn of South Africa's democracy overlapped with the shift towards globalisation, which took centre stage in world economics and politics during this period. Thriving democracies were encouraged to fall in line with, what was then considered to be, progressive democratic practices. South Africa's rise to being perceived as a symbol of democracy, paved the way for full-blown unfettered trade, in line with the globalisation practices that were gaining popularity in many democracies of the world. South Africa's integration into globalised markets meant that it had to be a member of the World Trade Organisation which restricted its ability to use protectionist measures (Green, 2009: 4). The impact of globalised trading on the economy would be learnt in later years, as the cheaper imports shrunk the country's local and export markets, shrinking the demand for artisans locally.

However, it may be argued that President Mandela's government, being a champion of democracy, aligned to what was perceived as democratic practices of free enterprise. Green (2009) uses the textile, furniture and automobile industries to illustrate the benefits of globalisation against its pitfalls. He concluded that increased productivity, in cases of bigger organisations that had the capacity to improve their systems, did not necessarily translate into lower unemployment. South African businesses, especially SMMEs, were unable to move up the value chain, as opposed to their developed counterparts. This resigned most of them to

compete against prices rather than quality and innovation. The South African government did not have the benefit of hindsight that its very own lag in skills development, its ironically progressive labour relations framework and constitutional employment practices, might render the country less competitive in unregulated international markets. The local drop in demand for artisans was accompanied by the emigration of artisans, and the declaration of certain skills as scarce across engineering sectors within South Africa.

The late 1990s was the start of a new era of the country's political leadership, in which President Mbeki's government advanced a neo-liberalist approach to managing the economy. This approach was characterised by further deregulation, incentivising business, and 'freeing up' the public sector with intentions of devolving responsibilities (privatising), with less direct influence of the public sector on the private sector. The post-1994 period saw the trend of a public service that interfered less and enabled more.

The government's economic philosophy found its way to the TVET sector, where the inclination of the state to devolve responsibility was apparent in the promulgation of the Further Education and Training Act (South Africa, 1998a) which gave greater autonomy to 'College Councils' to govern colleges. This was enhanced by the first amendment to the FET Act in 2006, where the responsibility of employment and payroll practices for TVET colleges was transferred from the state to the colleges.

Despite the impact of the economic downturn on the TVET sector, which witnessed the cutback in industry-sponsored apprentices, the demand for technical college education did not decrease during the pre- to post-democracy years. The College Collaboration Fund (CCF), a project driven by the Business Trust and managed by the National Business Initiative (NBI), gives a comprehensive statistical overview of the college sector between 1996 to 2000, reflecting an average sector growth rate of 8% per annum (Powell & Hall, 2000: 39). More significantly, however, is the fact that learner enrolments increased from 76000 in 1991 to approximately 406000 by 2002 (Akoojee, 2009: 122). This constitutes an increase of enrolments of 534% over ten years. While the recruitment of apprentices by industries might have slowed down, the number of private learners at colleges increased. The TVET college sector continues to experience growth founded on private learners, for the following reasons, some foreseen, others emergent:

a) The new democratic government recognised TVET education as a means to combat

unemployment, promote entrepreneurship and reduce poverty, while addressing the overarching needs of providing greater accessibility to learning and ensuring greater equity and redress to previously disadvantaged groups. These intentions are spelled out in a series of public prescripts. It is encapsulated in the Skills Development Act (South Africa, 1998c), which is augmented by the Skills Development Levies Act (South Africa, 1999b). They provide the strategies for funding and coaxing skills development practices in South Africa through a system of tax incentives to businesses. The promulgation of the FET Act reinforces the intent expressed in the Department of Labour (DoL) prescripts, but constrains its narrative to the TVET sector.

b) The boost in student numbers may be substantially attributed to the DoE's subsequent inclusion of a qualification that offered a vocational alternative to the school secondary education. This vocational qualification, the National Certificate: Vocational, is a three year qualification equivalent of the coveted National Senior Certificate (Schools), its entry requirement being a junior secondary qualification (Grade 9). Hence the TVET target market was significantly expanded, including students transferring from high schools as well as school dropouts and unemployed youth. Its introduction was accompanied by a once-off recapitalisation funding of R1,9 billion Rand for the college sector, clearly demonstrating the extent of the government's support. The period between 2006 to 2009 was marked by rampant infrastructural expansion in colleges and increased human development. Majuba College alone was allocated recapitalisation funding of 49 million Rand over three years.

c) The transition to a democratic government led to the emancipation of the majority of citizens in the country, particularly Black South Africans, who were able to freely enrol into traditionally white institutions. Such emancipation was coupled not only by the release of geographical and psychological boundaries, but complemented by the steady increase in bursary funding; especially to learners from previously disadvantaged backgrounds. The administration of the National Students Financial Aid Scheme (NSFAS) is underpinned by the FET Act that emphasises the need for expanding the accessibility of TVET and addressing redress and equity in education and training. It was well supported by the Skills Development Act 97 (South Africa, 1998c) which propagates the training and development of South African citizens in the context of redress, access and equity, the priority target being groups that were previously marginalised, i.e. Blacks (Africans, Coloureds and Indians) as well as females and learners with disabilities. Akoojee (2009: 131) makes reference to the first significant

allocation of bursaries amounting to 100 million Rand to TVET colleges in 2007. This has substantially increased over the years to 10 billion Rand in 2014.

d) The college sector presented an affordable option compared to universities and universities of technology, owing to its subsidised offerings, which was further enhanced by the prospect of half the course being experiential training at a worksite. It is reasonably assumed that learners would be attracted to allowances, stipends or sometimes salaries from employers, for being trained at a workplace, i.e. in the form of in-service training once they complete eighteen months of the theoretical component of their studies. Hence the nineties witnessed a shift towards the dominance of private students in TVET colleges, albeit the absence of formal placement strategies for students completing their studies.

e) The impact of the merger of colleges, led to the sharing of resources between State and State-Aided colleges, both physical and human, leading to improvements and growth of State-Aided colleges. It must be borne in mind that the HAI's (State) colleges, under the auspices of the House of Assembly, were well experienced in TVET. Most State colleges were established before State-Aided colleges and had greater experiences of the apprenticeship block-release system, their initial existence thriving on the collaboration with industries, predating the Manpower Act. On the other extreme, it may be argued that non-whites in State-Aided colleges were still coming to terms with the inferior form of industrial training meted out to them in the earlier decades, where working with one's hands was reminiscent of the Verwoerdian philosophy of blacks being resigned to physical work. The mergers therefore paved the way for stabilising many HDI campuses.

In the case of Majuba TVET College, this implied the merger of the traditionally 'White College' (NewTECH), 'Indian College' (St. Oswalds Technical College), and 'African College' (Madadeni Technical College). The campus with the least FTEs during the pre-merger period was Madadeni Technical College, a college for Africans in the township, where full-time engineering courses were restricted to the equivalent of secondary schooling. Within two years after the merger of colleges, and prior to the official promulgation of the FET Act in 1998, it had become the largest campus of all the local clusters, offering courses up to Diploma level (NQF 5) in both engineering and commerce.

f) The feeders to the college sector are predominantly high schools, either due to learners deliberately exiting the schooling system after grade 9, 10 or 11, or after completing schooling.

A very small amount of learners are company students. To a certain extent, it may be reasonably assumed that unemployed youth contribute to college enrolments; youth unemployment rates ranged from 16,9% to 26,7% from 2004 to 2000, and remained fairly constant since the post-centennial period at 25,2% (Statistics SA, 2013: 6.13). While high youth unemployment rates contribute to the levels of college recruitment, mainstream secondary schools will remain primary feeders to the college. The profile of such recruits and reasons for them choosing the TVET sector is a matter of significant discourse. The combination of parents, school educators and community members who recognise the TVET sector as a viable vocational option that could lead to future employment, versus those who view TVET colleges as the last outpost or dumping ground for mainstream schools, will be deliberated and tested in this work. We will explore its relevance in the research question: 'to what extent does Majuba college have a fair understanding of its local environment?' The mainstream schooling will be a key component of Majuba College's (as in any college's) external environment.

Segregating the college history into the pre- and post-Apartheid periods, provides a convenient and structured approach in accentuating the changes that characterised the shift in political leadership and provides us the context to understand today's plans and actions within colleges.

2.7.2 PERCEIVED COMPETITION BETWEEN NCV AND NaTED COURSES

The NCV was not positioned to be a replacement or threat to the NaTED courses. While the NaTED courses were targeted at apprentices working on a block basis, alternating between their employer and college, the NCV was offered as an alternate path to secondary schooling i.e. grade 10, 11, and 12, which was vocational instead of academic.

However, it must be noted that the description above of how the NaTED programmes worked reflects the ideal, i.e. how it was designed to work. The late eighties and nineties witnessed a South African economic downturn and a cutback in industrial exports that stifled the recruitment of apprentices. This marked the start of the growing aberrations to the NaTED system, where private learners, hopeful of later employment, dominated enrolments at colleges. While this alone is challenging, the further challenge is the resultant and unpredicted competition between the NaTED and NCV. It must be borne in mind that the NCV had practical training and fundamental subjects built into its curriculum, giving a whole qualification to appropriately set up the foundational education in a particular learning area. While the NaTED

theoretical courses were not designed to contain practical training nor fundamental components, they, at face value, are a tempting option to a school leaver. They offer a shorter duration, quick progress to post-school studies (N4 to N6), and in some cases, an absence of language subjects and mathematics. The impact of this conflict on the research question, would inevitably surface and have to be examined.

2.7.3 'THE DEVELOPMENTAL STATE' AS THE NEW WAY, AND ITS IMPACT ON THE TVET SECTOR

The global economic meltdown in 2008 had refocused governments to re-examine their policies. South Africa's neo-liberalist leaning during post-1994 period, leading to the meltdown, was characterised by deregulating and privatising. Between 1994 and 2006, unemployment rates rose from 20% in 1994, to 22,7% in 2008 (Business Tech, 2015).

The change in the presidency, albeit no changes in the leading party, ushered in a change in political and economic philosophy. With 56% of the population falling below the poverty line in 2009 and inequality, measured in terms of the Gini coefficient (0,59), remaining high by international standards (Leibbrandt et al., 2010: 17-19), the new leadership sought a new way. The attention of governments and academics turned to the East Asian economic successes of post-World War 2, leading to the focus on 'The Developmental State'. The broadened definition of the developmental state is a state that deliberately intervenes to promote development. This is underpinned by a growing need for greater political will that warrants a shift from voluntarism. Akoojee (2010: 264) reminds us of the call for a 'developmental state', as expressed at the 2007 Polokwane Resolution, which started an ongoing debate of what such a state constitutes. He highlights the convergence of various authoritative voices from public and private sectors, which have placed skills development as an incontestably crucial part of any debate regarding the effectiveness of a developmental state. While Akoojee reinforces that there is no fixed trajectory or recipe for a developmental state, he acknowledges the need to understand the national development challenges that would have to be factored into any debate, i.e. gross unemployment, poverty, inequity, xenophobic violence, rising protests owing to the lack of service delivery and self-enrichment.

The Impact Of This Political Thinking On The TVET Sector Is Twofold:

Firstly, the emphasis on education and skills development, the need to narrow inequalities,

grow the economy, reduce poverty, especially among youth who comprise half the unemployment figures, led to a decision by the newly elected cohort of government in 2008. They divided the Department of Education into the Department of Higher Education and Training (DHET) and the Department of General Education (DoE), and relocated the TVET sector within the Department of Higher Education and Training. Previously, the TVET sector was subsumed in the more established schooling and higher education sector, and was inevitably in competition with these established sectors for resources, recognition and development. College principals, as well as corporate services managers of TVET colleges, will attest to the undermining of the college sector, best demonstrated in the occasional virement or reallocation of revenue to the school sector, initially set aside for colleges. The provincial DoE, the implementation arm of the National DoE, often took decisions to relocate funds earmarked for the college sector to the school sector. This was symptomatic of the Provincial DoE's falling prey to the pressures of delivery from the school sector, especially the much publicised delivery of Matriculation (grade 12) results.

These conflicting practices ended with the creation of separate ministries for Higher and General Education. More significantly, the further intervention of the DHET to render TVET colleges a national competence, controlled directly by the national ministry, was a bold initiative that eliminated any further dilution of TVET objectives with the high school sector. Previously, the National Education department had taken responsibility of planning for TVET while the provincial DoE had been responsible for the implementation of those plans. Akoojee (2010: 271) asserts the view that the inability of provinces to take TVET priorities seriously had led to it falling into the cracks between national planning and provincial implementation. The direct line of command from the National DHET to the colleges eliminates such possibilities and presents the most favourable nomenclature that the TVET sector has had in its history.

It is also significant that the public entities that generate revenue for skills development, namely the Sector Education and Training Authorities (SETAs), were also relocated from the Department of Labour, to the DHET. Their roles are complementary to colleges. Their closeness places them in the heart of the DHET policy framework, encapsulated in the White Paper for Post School Education (South Africa, 2013e), such that they are a prescribed source of partnership and/or linkage to the colleges.

Secondly, the new philosophy of the state in creating a developmental state is characterised by

the state's intervention and greater sense of ownership. Hence the passing of the Collective Bargaining Agreement No. 5 of 2013 (ELRC, 2013), which decrees the transfer of public FET College lecturers from the colleges to the DHET, in terms of College Amendment Act No. 3 of 2013 (South Africa, 2013a). This Act seeks to ensure that the state takes over the governance and employment practices of colleges from the college councils, which is the reversal of the previous Act (FETC Act of 2006) and related practices. College staff has, in terms of Collective Bargaining Agreement No. 5 of 2013 (ELRC, 2013), been transferred from the college (ex-DoE) to DHET, onto the state payroll system, which in itself is a labour relations challenge, involving legal processes, that has spanned from 2013 to date.

Many college administrators who had lived through the decade leading to the decision to centralise the employment practices of colleges with the state will argue that the current dispensation is the result of the mismanagement of the previous order rather than the interventionist philosophy of government. The debate of whether the state's intervention was driven by the mismanagement of the initial decentralisation process in terms of the amended FET Act, i.e. FETC Act (South Africa, 2006), or through a political stance, though moot, casts insight into a turbulent period in the history of the college. College personnel will share lived experiences during the previous decade of salary discrepancies amongst public servants, the incapacity of college councils to offer sound governance and produce clean audit reports, mismanagement of funds, dissatisfaction among unions, and unresolved labour relations cases ('remainees').

2.8 A COORDINATED STRATEGY FOR TVET

Ministers of Education in the past have been clear on the relevance of vocational education in the area of skills development, but had not delivered a coordinated strategy on how to design an appropriate response that may be implemented. According to Akoojee (2010: 269), the Minister of Education, Naledi Pandor, was expressive in bringing this shortcoming – essentially of design and strategy - to the fore in 1988. In contrast, the current approach to the TVET sector, as gleaned from the White Paper for Post School Education in conjunction with other pieces of current legislation, reflects greater coordination that extends into different government departments. It is purposeful and may be viewed as more aggressive than any previous approach of past leadership cycles of the post-democracy period. The fact that the sector has been wrested away from provincial control, with all control redirected to the DHET

in Pretoria, making it a national competence, is a clear reflection of the government's intention to underscore the strategic importance of TVET.

This interventionist approach marks the attempt to break away from the view that the TVET sector constitutes a 'range of programmes' rather than a system. Akoojee (2010: 270) appropriately describes this former shortcoming as 'an amorphous construct', lacking the alignment of education and training to economic growth, poverty alleviation, etc. With the transfer of TVET to DHET there has been a sense of centralisation of TVET in the narratives relating to training and development, amongst other ministries. The recent legislation reflects greater coherence of planning, giving greater impetus to the makings of a system of action.

Reflecting on the research question: 'to what extent does Majuba College have a fair understanding of its local environment?' it is fair to assume that such an understanding would reflect on Majuba College's understanding of local environmental needs and preferences. This begs that question that may have to be answered during the research: 'whose responsibility is it to understand environments?' It makes sense that macro needs analyses may be driven from a national level by DHET and that a decentralised analysis of needs at provincial levels might require a devolution of responsibility to a provincial offshoot of the DHET, per province. However, given the revised FETC Act, i.e. the FETC Amendment Act (South Africa, 2012a), the role of a provincial authority for DHET has been factored out strictly from a legislative perspective, hence it is not expected that a college will depend on a provincial structure of DHET for colleges to address provincial or local needs. Therefore, when the research question is addressed to Majuba College, it is not expected that the task of provincial or local environmental scanning will be allocated to any formal provincial (KZN) DHET authority. However, the research work will have to question whether such a role is informally in existence, or ultimately, ought to be in existence.

2.8.1 THE CONTRIBUTION OF THE 'WHITE PAPER FOR POST SCHOOL EDUCATION' TO THE DEVELOPMENT OF A COORDINATED TVET SYSTEM

The thrust of the DHET plan, as outlined in the White Paper for Post School Education and Training, is 'to strengthen and expand the public TVET colleges, and turn them into attractive institutions of choice.' (South Africa, 2013e: X11).

The focus and need for growth are exemplified in the prioritisation of NSFAS bursaries to

students within the college sector, as well as the increase in TVET state funding. Bursary allocations to TVET colleges had risen from R300 million in 2010 to R1,988 billion in 2013 (South Africa, 2013e: 13). The targeted building of twelve additional campuses in 2015, articulated in the White Paper and reinforced in the President's State of the Nation Address on 13 February, 2014 (South Africa, 2014b), as well as the setting up of an Open or Distance Education system for colleges (South Africa, 2013: 8), augurs well for increasing student numbers.

The progress of the targeted expansion of the TVET system is evident in the doubling of the TVET enrolment headcount from 2010 to 2013, and has reached the anticipated headcount of 1 million in 2015, making the trajectory of the projected 2,5 million mark in 2030, seem achievable.

The need for 'strengthening' of the TVET system alludes to increasing the quality and attractiveness of the sector, unmistakably a higher calling than merely increasing numbers. In this pursuit, the White Paper for Post School Education and Training aligns itself with the country's key national policy documents, i.e. the National Development Plan (South Africa, 2011), the New Growth Path (South Africa, 2011a) and the Industrial Policy Action Plan (South Africa, 2014a) and Human Resource Development Strategy (HRDS) (South Africa, 2009). The White Paper clearly reflects government's assertion in focusing its national priorities towards the TVET sector, in its quest for solutions. Its target strongly focuses on the poor and marginalised.

The White Paper expresses the need for a higher quality of education, articulation between qualifications, the importance of creating partnerships and integrating employers and industry experts into the ETD process, and the need for redress and equity. Quality Council bodies are expected to play significant roles in troubleshooting areas of poor performance and advocating remedial or capacity-building measures. In its quest to address the quality improvements directly, the White Paper includes the improving of throughput rates, management capacity and student support services, building partnerships, and strengthening governance.

The White Paper for Post School Education dwells on the establishment of the South African Institute for Vocational and Continuing Education and Training (SAIVCET) to support and strengthen the college sector. Developing curricula, upgrading the knowledge and skills of educators, developing forums for experts to develop materials, initiating research, and

promoting coordination and linkages between TVET colleges and other Higher Education institutions, and monitoring and evaluating TVET colleges are among the key focus points. The concept of the SAIVCET once again demonstrates the DHET's leaning towards centralisation and control.

The White Paper pronounces the re-establishment of a proper artisan training system as a key and urgent priority, with at least 30 000 artisans to be produced by 2030, as well as the promotion of learnerships and internships in non-artisan fields. The roles of SETAs and the NSF are emphasised. The SETAs will play crucial roles in bridging the divide between local labour market needs, employers and colleges. This would warrant responsive curricula, differentiation in offerings and the need to develop and nurture niche areas of specialisation. In keeping with the concept of the developmental state, the role of integrating government strategies in developing youth programmes, SMMEs, and rural development programmes is emphasised.

The role of research in determining Skills Planning is highlighted. Centralised planning is considered essential, with SETAs to play a major role in providing sector-specific quantitative data to influence national skills planning, and the allocation of mandatory and discretionary grants.

The White Paper also reflects upon the objective of improving the college responsiveness to local labour market needs. It is significant that this objective relates directly to the research question.

2.8.2 THE IMPACT OF THE COLLEGE ORGANISATIONAL STRUCTURE AND CORPORATE PARADIGM

At this point, it would be reasonable to present a view that the college institutional structure plays an important role in enabling campuses (or not, for that matter) to interact with their local environments. It would also be useful to bear in mind that the organisational structure of colleges may not reflect a pure line-in-command organogram, depicting public servants with clear-cut responsibilities.

The origins of the multi-site organisations that we have today may be retraced to the FET Act of 1998, which advocated the creation of a coordinated TVET system that promoted accessibility, redress and equity. The New Institutional Landscape for FET Colleges in KZN (South Africa, 2001a: 2) realised this vision partially through mergers, leading to the creation of

large campuses. Inevitably, there was the need to set up central administration units with mechanisms to manage the surrounding campuses, and so give credence to the essence of the FET Act. The need for efficient structures and systems to achieve coordination, as well as the need to cascade the vision and philosophy of a new corporate order, fused with transformed public sector priorities, led to deliberations on organisational structuring, norms and standards and institutional planning that remains dynamic and prevalent up to the present.

Some features of organisational structuring were guided by the FETC Act of 2006, such as the senior management composition and the formation of governance structures. The senior management was prescribed as comprising a Principal, Deputy Principal - Academic and Deputy Principal - Corporate. The Act included the following mandatory structures: the need for a College Council and an academic board per TVET college. However, most subcommittees and ad-hoc committees emerged through felt institutional needs and experience. During this process, college council leaders as well as college managers grappled with the distinctions and overlaps between governance and management roles.

A similar struggle for identity occurred during the evolution of the management structures of the institution, particularly the staffing of the central office. The National DoE, during the post-merger phase, did not immediately define and constitute a set of central office positions. During the five to eight years after the promulgation of the FET Act (South Africa, 1998a), the creation of central office roles was left to the colleges' discretions. In a sector that was used to defined post allocations and descriptions, the lack of a formal post establishment for a central office organogram was unprecedented. Hence the responses of TVET colleges were varied. Their staffing strategies ranged from tentative to bold, underlying the inconsistency of practices across colleges. Their actions were dictated by a range of factors that inevitably included their financial stability and leadership dynamics. Most TVET colleges created 'temporary' and 'acting' positions. Some chose to create task teams rather than appoint individuals, while others boldly created council paid contract positions. It remains difficult to assess the successes of the different approaches without examining the context of each college. Factors to be taken into account are the college's financial situation, the reliability of the specific provincial DoE authorities to provide the anticipated revenue, the extent to which colleges conformed to the often undocumented affirmative action targets, as well as the value added by the positions created. In whichever case, however, it may be argued that the

colleges' attempts to structure their organisations in terms of their perceived needs were either justifiable or condonable in the absence of any sector specific human resources policy prescripts.

Between five to eight years after the promulgation of the FET Act of 1998, the DoE advertised eight key mandatory positions, i.e. portfolio managers, which would be the key drivers for the senior managers. They were: Assistant Directors in Finance, Human Resources, Marketing, Corporate Services, Student Support Services, Curriculum, Further (Higher) Education and Training Management Information Systems (HETMIS) and Quality Assurance Systems.

As in the case of any developing organisation, these few positions became the backbone around which other positions emerged, necessitated by rationality, innovation, or conflict. At times, the administrating directorate's capacity to envision needed positions seemed to be relegated to a secondary role, favoured by painful experiences and hindsight. A typical example of a needful role that came into being after the administrative collapse of twenty percent of all colleges in the sector (colleges were placed 'under administration'), was the need for Chief Financial Officers. Even the White Paper for Post School Education and Training is mildly emotive in articulating 'never again should colleges be without properly qualified and experienced financial and human resource managers.' (South Africa, 2013e: 19).

The extent to which individual and departmental jobs were centralised and shared, remain vital questions to human resources managers and college principals. The degree to which an institution allowed for decentralisation of posts was directly related to the extent to which certain positions, functions, even campuses, enjoyed greater autonomy. At times, allowing for greater autonomy was attractive in that the monetary saving on the HR budget was greater, but the more creative the controls and monitoring would have to be. Allowing for autonomy essentially meant the devolving of the power base, from the central office to campuses, to sub-departments. These decisions are never simple ones as the issue of power perceptions has its own dynamics, where decision making is also a product of senior managers' individual personalities, management styles, fears and the surfacing of an entire range of soft issues. While senior administrators grappled with these issues in their quest for effectiveness, efficiency and efficacy, the colleges evolved distinctly differently from each other.

The task of colleges to evolve into the desired institutions that have central administration units which coordinate fully with their campuses as well as DHET structures, and serve their

surrounding environment, is mired in difficulty. Beyond the operational morass of attempting to align with the broader legislative framework, and develop customised policies, it must be remembered that colleges emerged from a paradigm of teacher-classroom interaction. The principal was traditionally an educationist, not a business manager. The transformation of the Apartheid-era TVET colleges included the breakaway from the duplication of services and wasteful expenditure typical of Apartheid governance. It was replaced by a streamlined corporate structure that sought, and still seeks, to be relevant to the international production paradigm, one that appreciates a business ethos. The new order has placed pressure on college managers to reach targets, many of which are not directly related to teaching and learning. The degree to which the shift in paradigms, from a purely education-based paradigm to a business oriented one, led to a gap in capacity, with traditional educators being forced to play new unaccustomed roles, is a useful debate. It may be reinvigorated when the research question, 'to what extent does Majuba College have a fair understanding of its local environment?' is posed to campus management teams.

2.8.3 THE IMPLICATIONS OF THE LEGISLATIVE FRAMEWORK ON UNDERSTANDING THE LOCAL ENVIRONMENT

While each college, or perhaps campus, will identify and choose to interact with stakeholders in its own local environment, neither the FETC Act nor the White Paper for Post School Education overtly define any restrictions of whom the external or local environment's role players should be. The Acts promote the need for alliances and partnerships, which includes those linkages that promote equity, redress and access. The context of involvement will take into account the country's national policy documents such as the National Development Plan (South Africa, 2011b), the New Growth Path (South Africa, 2011a) and the Industrial Policy Action Plan (South Africa, 2014a). On face value, the legislative framework leaves much of the deliberation on whom to engage to the colleges, requiring colleges to reflect on the broader objectives of TVET. That includes factors such as education and training for employability, lifelong learning, rural development, and sustainability. While this might be gleaned from the White Paper for Post School Education and the FETC Act of 2006, one needs to be mindful of the White Paper's insistence on 'tackling the issue of increasing enrolments and improving quality concurrently,' (South Africa, 2013e: 14). This statement, read in conjunction with the increase in NSFAS funding from R300 million in 2010 to R1,988 billion in 2013 (South Africa, 2013e: 13) and the projections in head counts of 2,5 million learners in

2030, gives a clear impression that the need for growth is a superseding factor within the TVET domain.

However, the degree to which the DHET operational plans further restrict or guide the interaction of the college with its stakeholders will only be uncovered through the analysis of primary data from this work, as well as intermediate documents or memos that may be uncovered during information gathering.

In the interim, stakeholders are all relevant, whether established corporate bodies or SMMEs. Partnerships with small, medium and micro enterprises (SMMEs) are particularly encouraged as it promotes the growth of small businesses. So are partnerships with: government departments such as the Department of Trade and Industry, the local municipalities and its various components, to smaller organisations such as Non-Government Organisations (NGOs), Non-Profit Organisations (NPOs) and influential civic organisations. Of course, parent and student bodies form a vital part of the environment. Colleges are encouraged to partner with other education sectors to articulate to higher qualifications, or add value to the existing qualifications. SETAs, seen as accessible partners to TVET colleges, will assist in forming the triangular relationships between business, SETAs and colleges.

2.9 CONCLUSION

While the legislative framework gives colleges much legroom, it is noteworthy that the White Paper for Post School Education firmly reinforces the narratives from various sources gleaned in this chapter: it states that colleges should be 'rooted in their communities, serving community as well as regional and national needs.' (South Africa, 2013e: 11). It further reiterates that colleges should primarily provide education and training to 'members of their own and nearby communities and develop skills for local industry, commerce and public-sector institutions.' The narrative reflects the local college as a vanguard for 'a route out of poverty' and 'personal or collective advancement'. This is a compelling imagery which leads one back to view the research question: 'to what extent does Majuba College have a fair understanding of its local environment?' and draws one to conclude that the college's need to understand its local environment is a public responsibility rather than an institutional choice.

3. CHAPTER THREE

ENVIRONMENTAL SCANNING

3.1 ENVIRONMENTAL SCANNING IN CONTEXT

This chapter lends insight into environmental scanning, as this concept is implicitly a part of the research question: 'to what extent does Majuba College have a fair understanding of its local environment?' In doing so, it seeks to clarify the role of environmental scanning as a fundamental driver of institutional planning and an inextricable component of the college's organisational strategy. The chapter will view the concept generically at first, and then hone in on its role within public educational organisations, and further narrow this treatment to the public technical and vocational college. Noticeably, the body of literature relating to environmental scanning is ample when viewed from a corporate perspective, but becomes scarce as we zoom into the role of environmental scanning in educational institutions and even more scarce when we examine its role in public TVET colleges.

The chapter draws upon international research and practices of environmental scanning, within an educational context. It seeks South African based literature where available and especially highlights environmental scanning practices related to TVET colleges in South Africa.

3.1.1 PERSPECTIVES ON DEFINING ENVIRONMENTAL SCANNING

Environmental scanning is traditionally considered the first step in a series of actions that enables an organisation to uncover events and trends in the external environment, to reduce uncertainty (Lewis & Harvey, 2001; Du Toit, 2016). Wambua & Omondi (2016: 235) draw upon the work of Aguilar (1967), in considering environmental scanning as activities that source information from the external environment, which include information that carries perceptual value, beyond factual data. Liu (1998a: 309) and Zhang, Majid & Foo (2012: 67) reinforce this view by referring to 'strategic scanning' as a practice of building conceptual schemes or developing models by the scanner, where sensing, perceiving and constructing models for understanding, is commonplace to direct managerial attention into envisioning the future. Milliken (1990: 43) extended this view by reflecting on the purpose of scanning being to 'identify key trends, changes and events in an organisation's environment that might affect the organisation's functioning.' Fabbe-Costes et al. (2014: 667) refer to this as 'pre-attentive

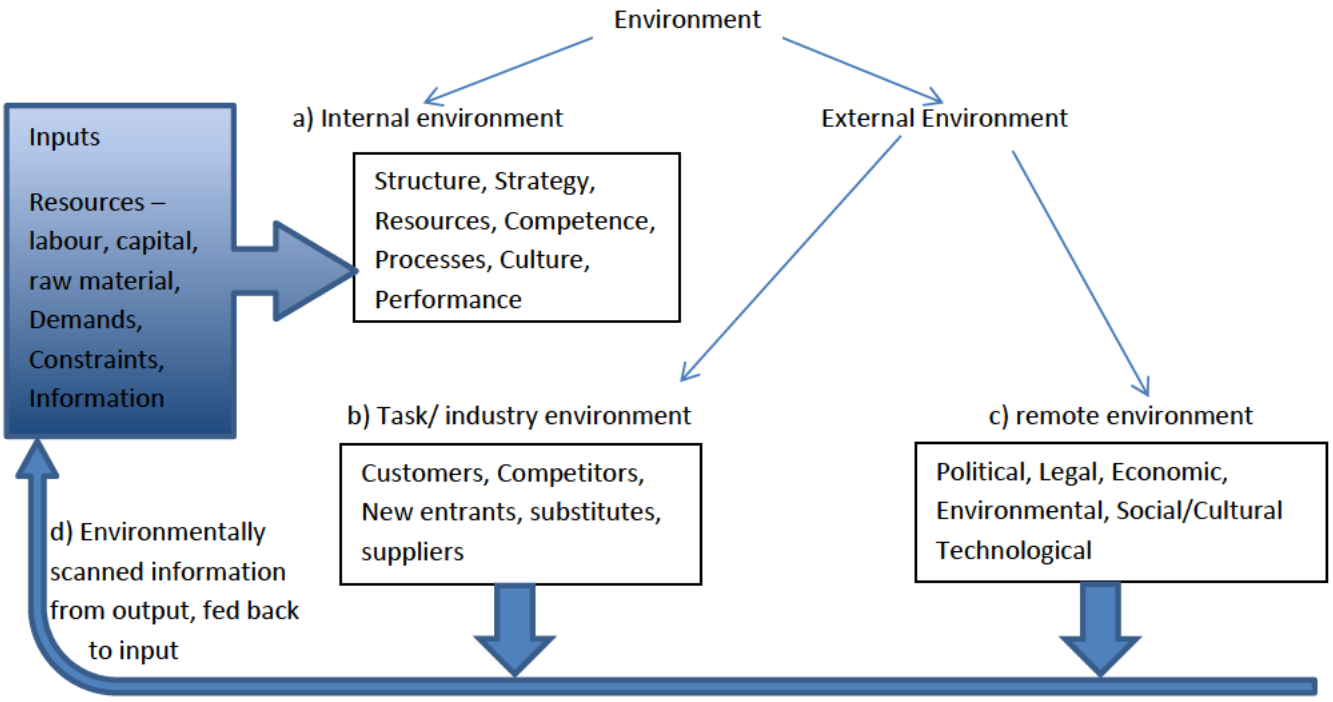
monitoring': to be vigilant to discrepant signs or signals that could assist in identifying, discovering or anticipating changes. This view is consistent with Steyn & Puth (2000: 166) who perceive environmental scanning as activities to not only gather environmental information, but also process it to more easily help to define problems and make decisions for the future. Significantly, Fabbe-Costes et al. (2014) concur with the stance of Steyn & Puth (2000) that once such signals are detected, the interpretation and meaning of the signals, to advise managerial action, is as much a part of the process of environmental scanning.

3.1.2 THE RELATIONSHIP BETWEEN THE ORGANISATION AND THE EXTERNAL ENVIRONMENT

The external environment refers to the social and physical factors outside the boundaries of an organisation, which impact on managerial decision-making (Liu, 1998a; Maier & Zenovia, 2012). It has typically been divided into the task environment (also known as industry or domain environment) and the remote environment (Carpenter & Sanders, 2009).

Figure 3-1 offers a holistic interpretation of the internal-external environment by integrating the separate concepts or illustrations, depicting their interconnections. It presents the environments in a single frame.

Figure 3-1: A Holistic View of the Internal-External Environment of an Organisation, by Depicting the Various Concepts/Models Side by Side



(Source: adapted from Liu, 1998a: 295-312; Grundy, 2006; Gupta, 2013: 13-17 and Jackson, 2003: 6)

With reference to components a) to d) in figure 3-1:

a) The internal environment comprises the organisational structure, strategies, staff (competencies), processes and organisational culture (Liu, 1998b). The constituents of the internal environment are comparable to the components of the 7-S framework of McKinsey (2008), widely applied in studies ranging from analysing organisational structures (e.g. Ravanfar, 2015) to the development of organisational strategies (e.g. Kaplan, 2005), where strategy, style, skills, systems structure, staff and shared values, exhaustively cover the internal environment of the organisation. It may be argued that the constituents of the 7-S framework are useful in viewing the internal environment, because the framework serves the fundamental purpose of facilitating organisational change, borne of changes in the external environment.

b) The task environment of the external organisation comprises of the immediate environment that the organisation directly interacts with, and its forces may be appropriately expressed in terms of Porter's five forces model (Grundy, 2006): bargaining power of customers, bargaining power of suppliers, new entrants, substitutes and competitors. Porter's (2008) model assists in determining the strategy that an organisation uses and influences the type of environmental scanning activities the organisation employs.

c) The remote environment includes aspects of the macro environment that may not have a direct impact on the organisation but may have an impact on the industry or region, which ultimately affects the organisation. These aspects are appropriately covered in the conventional PESTEL analysis where the ramifications of political, economic, social, technological, environmental and legal factors in the external environment are taken into account in environmental scanning. This dimension of environmental scanning will be explored later, taking into account the above factors.

d) The feedback of information from the task and remote environment back to the input reflects a traditional control paradigm. It draws on the field of Systems Theory, particularly cybernetic research and an emphasis on the role of adaptive feedback (Jackson, 2003). Systems Theory will be deliberated upon in chapter four within the context of *open system theory*, but it is sufficient, at this stage, to consider an organisation as an organismic entity,

continuously adapting or co-existing with the environment, through a network of interactions with the environment (Flood, 2010: 270). It may thus be said that organisations are unceasingly interacting with the environment, controlling and being controlled. This is supported by Liu (1998a: 296) who views organisations as complex open systems, in an active exchange of input and output roles with the environment, or wherein the identities of systems and components are coterminous (Andrade, 2015: 328). The feedback loop in figure 3-1 reflects the collation of processed environmental scanning information, which is fed back to the internal environment, enhancing the possibility of the organisation adapting to the forces in the external environment. This aspect of the model in figure 3-1 is pertinent to this literature review, where information regarding the external environment is processed and fed back to the input to assist the internal environment in planning to deal with the external issues. It informs the organisation's strategy, realigns its skills, resources and structure, and may warrant a change in organisational culture.

3.1.3 COMPLEXITY WITHIN THE ORGANISATION AND THE ENVIRONMENT

Zhang, Majid & Foo (2012: 2) reflect on the rising volatility and uncertainty of the external environment with the advent of rapid globalisation and technological innovations, economic crises, political realignments and instability, and natural disasters. It is therefore unsurprising that Fabac (2010: 34) asserts that the environment in which the modern company operates is itself complex.

The Systems Approach, which is extensively dealt with in chapter four, is an approach that is associated with the theory of complexity. It recognises complex organisations as Complex Adaptive System (CAS) (Mason, 2007; Fabac, 2010: 35). This refers to a system composed of many interacting parts that evolve over time. The typical complex system comprises of many independent interactions, observations and agents that act in accordance with their own objectives. While advocates of Systems Theory (Jackson, 2003; Ackoff, 2010; Flood, 2010) have brought to the fore the systemic nature of organisations in their environments and have contributed in offering ways of understanding and problem-solving within organisations, the complexity of large public sector institutions has prompted the need to view the modern organisation as characterised by complex adaptive systems (Fabac, 2010: 34). Arevalo & Espinosa (2014) and Mason (2007) perceive the influence of the external environment from a complexity and chaos perspective, and note its influence on the organisation. The internal

complexities of the modern organisation will be further dealt with in chapter four.

3.1.4 CUSTODIANS OF ENVIRONMENTAL SCANNING

It is well acknowledged that top managers are key stakeholders who interface with elements beyond the workplace, and are relied upon to scan the external environment (Liu, 1998a: 309; Mejri & Zouaoui, 2013: 2). Top Managers scan the external environment personally, and also initiate and support structures and processes within their organisations to conduct environmental scanning. This is plainly evident in larger organisations that might house the environmental scanning functions within the marketing departments and research units, while smaller organisations may have informal or outsourced functions, or vigilant senior managers. In either case, it is amply argued that any form of structural arrangement for environmental scanning is inefficient if not supported by senior managers (Langton, 2005: 1; Choy, 2012: 9; Cho, 2011).

Cho (2011: 154) argues that top managers can be impediments to organisational adaptation because they may be locked in their current state of perceived successes and social processes, as well as their thinking might be circumscribed by their limited competencies. This view is supported by Mejri & Zouaoui (2013: 9) who perceive environmental scanning as a 'state of mind' but also conclude that managers' quasi-monopoly of power, culturally influenced values and convictions play important roles of creating individualistic behaviour that limits environmental scanning.

Cho uses these findings as the basis to further propose that the extent of cognitive involvement in scanning the environment is dependent upon the motivational mindset of the top management team. Cho presents two states that may define top management involvement, i.e. either promotion or prevention focused (Cho, 2011: 151). These states would determine how the environment is scanned and the resultant information is processed. Cho concludes her study by proposing that top management ought to comprise of a diverse set of individuals, whose varied orientations may complement one another to broaden their collective cognition.

For the purposes of this research, Cho's work has some resonance within the college sector, wherein we may be drawn back to her grounding statement that a top management team plays a substantial role in influencing environmental scanning. Perhaps in the context of a

complex public services entity such as the college sector, 'top management' could involve individuals based in provincial and national departments, as well as localised senior management teams within colleges.

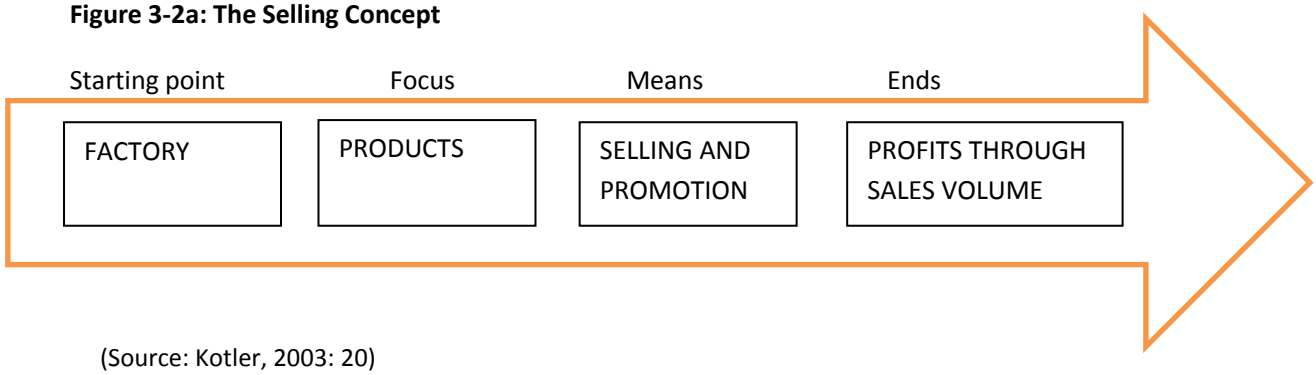
The impact of the Cho's work can be fully understood if we further understand the value of environmental scanning in institutional success, hence giving impetus to understanding the extent to which top management ought to support it.

3.2 **THE VALUE OF ENVIRONMENTAL SCANNING IN INSTITUTIONAL SUCCESS**

The increasing need to cope with changes in the environment has triggered the need for organisations to understand the external environment (Lewis & Harvey, 2001; Mejri & Zouaoui, 2013). Change, as a business concept, has made an impact within management circles, its status having evolved to a dedicated science at business schools across the world. Copious research, some critically reviewing the vast range of existing work on change management, such as Todnem (2005) and Graetz & Smith (2010), supports the view that adapting to change is a requirement for survival and prosperity. Implicit in this view, is the ability of an organisation to relate the external developments in the external environment to what is occurring inside the organisation.

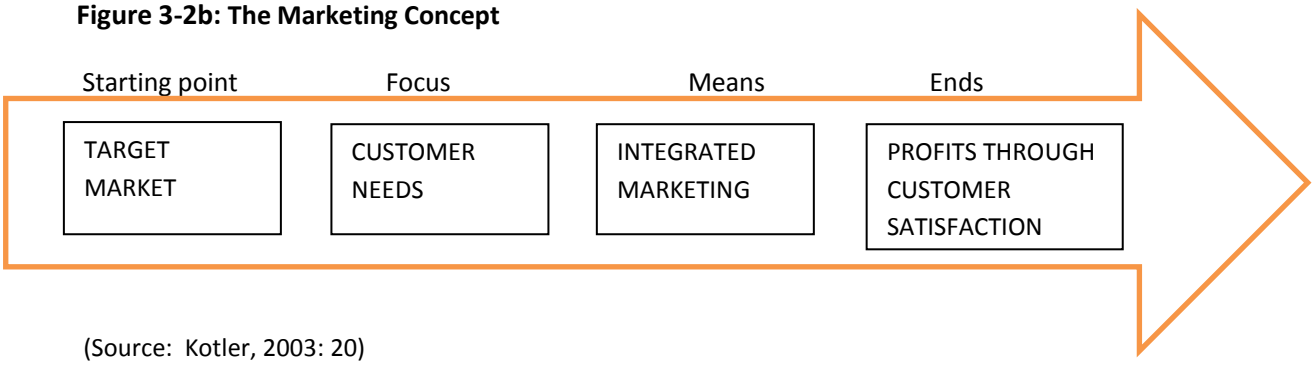
Philip Kotler, renowned as the most influential proponent in the field of marketing (Williams, 2014) with over 40 books in this field, spanning five decades, had dedicated his efforts into examining the changing environment and its impact on businesses. Kotler's basic assertion that has become commonplace in the academia and business world, is that the marketer's role is to help his/her organisation to be customer driven (Kotler, 2003: 20), which implies the need for an organisation to understand its external environment. In his model below (figure 3-2), he emphasises the difference between the Selling Concept versus the Marketing Concept. The selling concept (figure 3-2a) typically focuses on the product, the thrust of its attention lying in product development and related factory processes. This is followed by a search for customers, with a view to make profits through volumes of sales. The marketing concept (figure 3-2b), on the other hand, focuses on identifying customers' needs. The customers may be segmented into categories of like needs. Strategies can be developed to provide for those needs, with the intention of satisfying each target group of customers. Kotler argues that selling, in general, is made superfluous if proper marketing is in place.

Figure 3-2a: The Selling Concept



(Source: Kotler, 2003: 20)

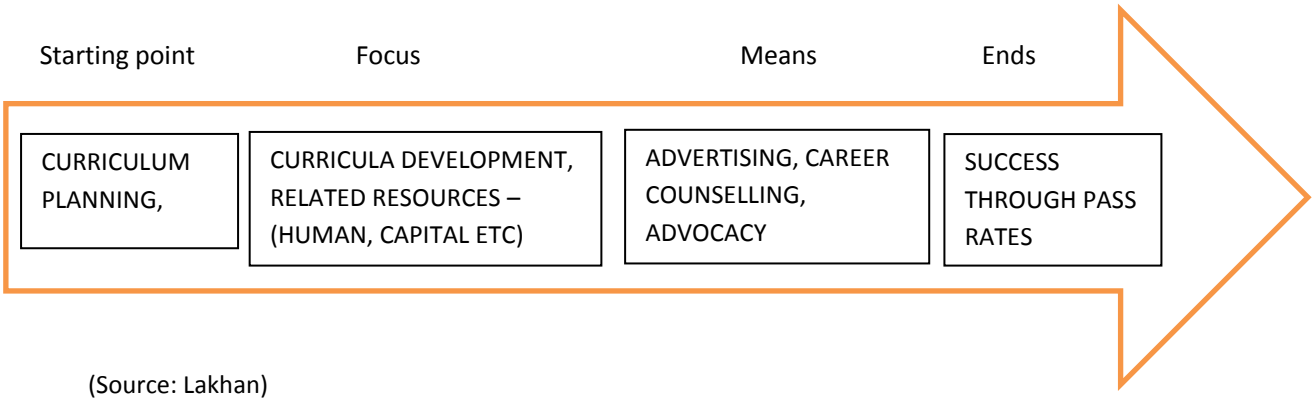
Figure 3-2b: The Marketing Concept



(Source: Kotler, 2003: 20)

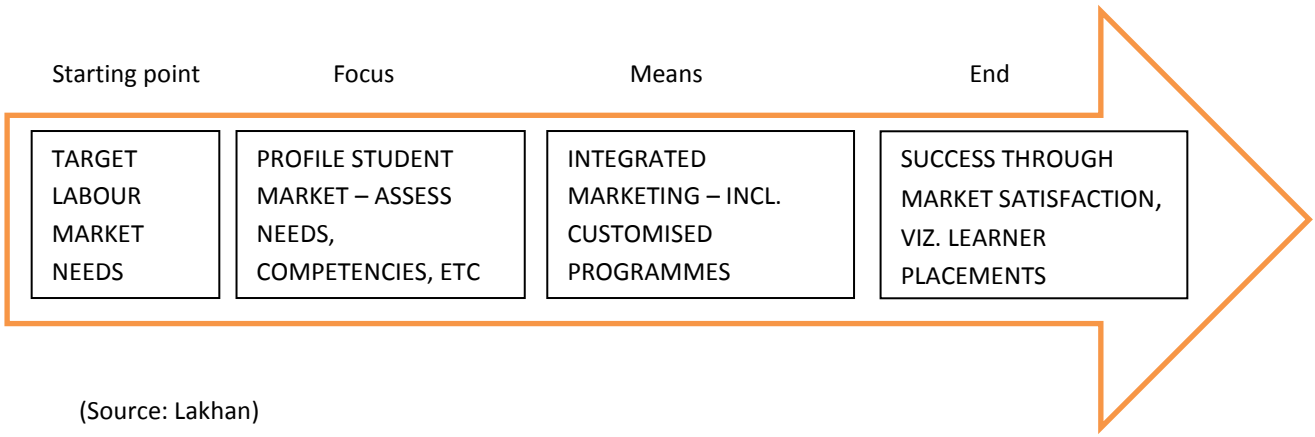
Figure 3-3 below attempts to adapt the product and marketing concept to TVET colleges, in a bid to understand the impact of Kotler's assertion, on a public college's practices, albeit Kotler's immediate attention was directed to a profit-bearing private sector model.

Figure 3-3a: The Selling Concept Adapted to TVET Colleges



(Source: Lakhan)

Figure 3-3b: The Marketing Concept Adapted to TVET Colleges



(Source: Lakhan)

The adapted models (figure 3-3a and 3-3b) for a TVET college are consistent with Kotler's concepts of selling and marketing, distinguishable by the priority at the outset of planning, and the final result. The TVET marketing concept, as depicted in figure 3-3b, reflects the need to analyse the dynamics of the external environment, particularly those aspects that have an impact on the labour market. This would determine the programmes that have to be tailored to meet the external needs, where curricula may be customised, and the customers (industry, commerce, public service representatives, learners groups themselves, etc.) segmented and targeted. The end result would naturally be a student fit for the market, as planned for. In the TVET product selling concept in figure 3-3a, the emphasis lies with developing programmes, more often around the design of curriculum experts, and effort is expended in aligning the programmes with resources, after which learners are sought through promotional activities. The end result is focussed on student pass rates.

The appreciation of the product and marketing concepts will prove useful in conceptualising the approach of Majuba TVET College in later chapters. One, however, needs to be mindful that the two concepts present extremes of a continuum along which a college may operate.

3.2.1 ENVIRONMENTAL SCANNING AND PRODUCTIVITY

Babatunde & Adebisi (2012) conducted studies to establish the relationship between environmental scanning and productivity. While the results of the study clearly yielded that the use of 'strategic' environmental scanning led to an increase in productivity, it is significant that the study considered environmental scanning, in itself, a strategic activity rather than a process that led to strategic activities. Babatunde & Adebisi (2012: 26) construe the concept of

environmental scanning to include both factual and subjective information relating to the environment in which an organisation operates. Babatunde & Adebisi (2012: 27) reflect on the work of Kazmi (2008) in identifying three modes of scanning:

- **Ad-hoc scanning**: this is typically reactive, such as to determine factors in the environment that may have led to a crisis within a company.
- **Regular scanning**: these scans are performed on a regular schedule, e.g. once a year.
- **Continuous scanning**: this relates to continuous structured data collection and the processing thereof, covering a wide scope of environmental factors. Interestingly, this type of scanning is also referred to as 'continuous learning', which resonates with Choo's work (2001: 2) that referred to environmental scanning as a primary mode of *organisational learning*. Such learning may occur through casual conversation or experiences with clients (unstructured, not necessarily continuous) or it may be formal market research programmes and scenario planning exercises (structured, may be configured to be continuous).

Liu (1998a; 309), also a proponent of continuous scanning, reinforces the notion of such planning being strategic, which 'builds up the information basis for strategic management.' Liu perceived such planning to be more than sensing, but of continuously developing models for understanding, and devising conceptual schemes to facilitate understanding, and the envisioning of the future.

Babatunde & Adebisi's conclusion that environmental scanning improves productivity, aligns with Kotler's advocacy of the marketing concept which aims to understand customers and the environment to achieve success. However, beyond the assurance of the significance of environmental scanning, the issues surrounding the way environmental scanning ought to be conducted presents a level of interest to this work, which will be explored towards the latter part of this chapter.

3.2.2 THE IMPACT OF ENVIRONMENTAL SCANNING ON STRATEGIC PLANNING

The rationale for the marketing concept, as espoused by Kotler, has long moved beyond its theoretical underpinnings, and its practice is rife within the business world. Kotler's work is replete with case studies of large, powerful corporations such as IBM and General Motors that collapsed because they ignored environmental changes (Kotler, 2003: 265). Businesses such as Ford, once the epitome of the Product Concept which mass produced black Model Ts, have

radically transformed, to the point where the company had declared its focus as customer driven in its 1999 annual report (Kotler, 2003: 22). The report noted, 'A customer driven company must be relentless in its focus. It must listen to customers, find ways to fill their needs, and continue to seek feedback on how well it is satisfying those needs.'

3.2.3 THE STRATEGIC NATURE OF ENVIRONMENTAL SCANNING IN COMPLEX SETTINGS

Liu (1998a) reinforces environmental scanning as a strategic activity, the value of which is acutely felt in complex settings. She advocates the need for information systems to mine large quantities of data and assimilate and process information, to improve the speed and accuracy of planning cycles. She advances this within a strategic management framework. Like Babatunde & Adebisi (2012), and Kazmi (2008), Liu (1998a: 295) advocates that environmental planning is truly strategic when it is able to inform planning cycles continuously, not merely 'scanning for planning' (Russel and Prince, 1992). Liu points out that in a complex, competitive environment, where the rate of change is constantly increasing, environmental scans become obsolete quickly. It is significant that, with the complexity of the environment, certain signals thereof may be weak, confusing and spurious. Hence a variety of sensors is advocated; some to capture a broad view, others to probe. Liu (1998a: 299) expounds on this dual approach strategy of scanning. A probing or focussed approach may be used where necessary, but also bearing in mind the value of broadening the scanning scope to provide complete and accurate scanning of the external environment, especially when conditions are deemed uncertain. Hence, a broad scan during uncertain times is valuable as it would more likely lead to confident and robust decisions to prioritise specific focussed scans.

Liu (1998a: 301) emphasises the need to 'step out of habitual mental models and frames of reference and re-examine the norms and assumptions.' A reminder of Cho's (2011) work referred to earlier in this chapter, which alluded to the need to look at environmental information with different perspectives, gleaned from the proposal to ensure that top management is diversified.

3.2.4 ENVIRONMENTAL SCANNING AS A COMPONENT OF ORGANISATIONAL STRATEGIC MANAGEMENT

From the preceding account, it is evident that an organisation would benefit from environmental scanning by understanding its environment such that it may concoct

appropriate strategies to serve its customers better.

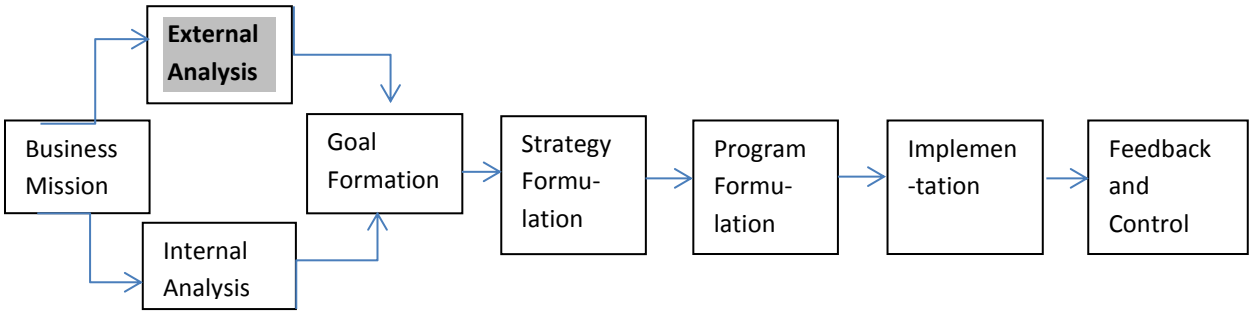
At this point, it is fitting to reflect on segments of a substantial body of work that accepts environmental scanning, embedded within the marketing concept, as an inseparable part of the strategic management process. Choo (2001: 103) refers to a summary of research work wherein the studies conclude that environmental scanning improves organisational performances, despite the various studies using different criteria to measure their findings:

- Newgren et al. (1984), cited in Choo, (2001: 103) used economic performance as a criterion, while Dollinger (1984), cited in Choo (2001: 103) used the measurement of the number of contacts with outside constituencies (e.g. clients, government officials, trade unions, etc.). West (1988), cited in Choo (2001: 103) used return on assets and return on sales. Daft et al. (1998), cited in Choo (2001) studied high performing firms against a measure of their frequency, intensity and breadth of scanning, finding that such firms increased their commitment to environmental scanning during uncertainty. Subramanian et al. (1993), cited in Choo (2001) used profitability and growth, showing that firms that used advanced systems of environmental scanning, yielded higher profits and growth.

Choo's assessment that environmental scanning improved organisational performance included research work relating to non-profit organisations, particularly public sector organisations. In these instances, Choo (2001: 7) cited cases where the role of environmental scanning improved the ability of the public sector entity to react to and implement change in response to external factors, rather than increase profitability and economic growth.

It becomes increasingly apparent that the value of environmental scanning lies beyond its ability to provide information. More valuably, it leads to insight into the external environment that may lead to a critical analysis of such information, which in turn may be used to introspectively examine the workplace. This enables an organisation to fashion strategies in pursuit of competitive advantages in the external environment, to merely survive, or in the case of a public sector entity, effectively deliver services. The relationship between environmental scanning and strategic management is defined in Kotler's basic model in figure 3-4 that follows (Nieboer, 2011: 373; Kotler, 2003: 102).

Figure 3-4: Strategic Management Process, highlighting External Analysis

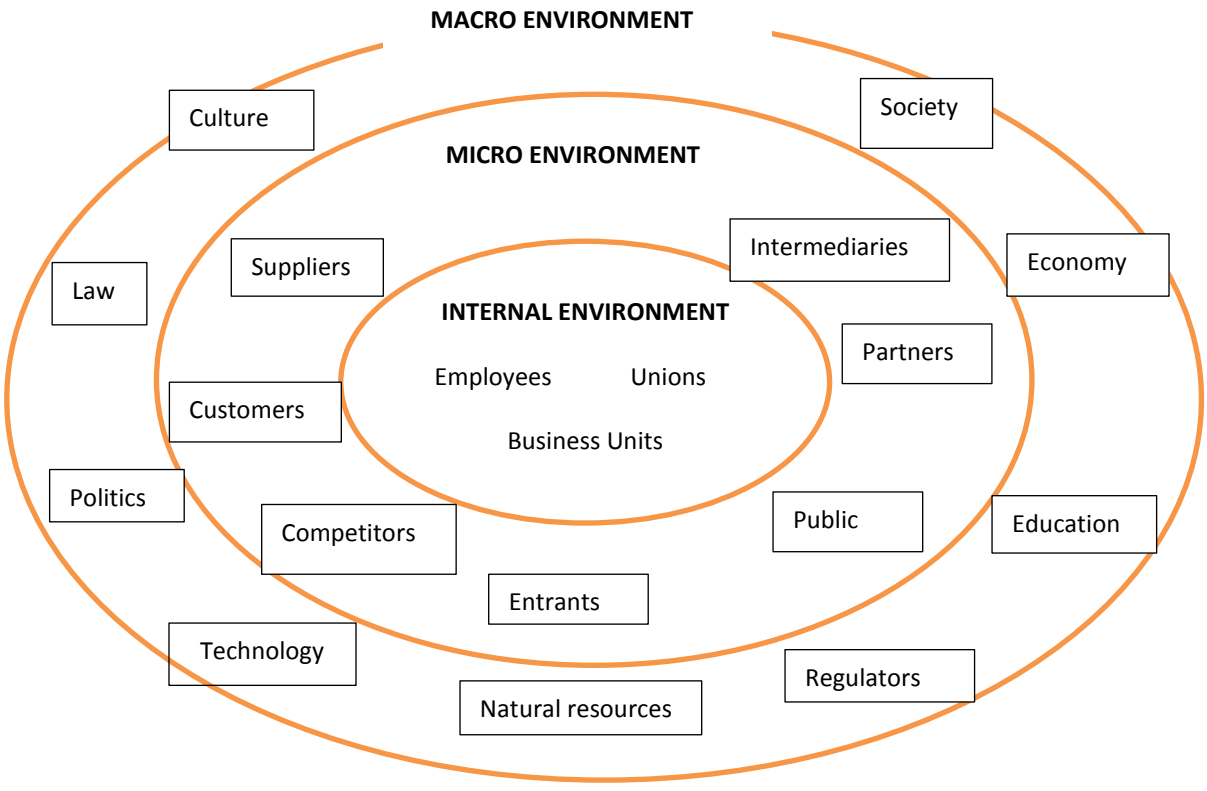


(Sources: Kotler, 2003: 102; Nieboer, 2011: 373)

The External Analysis of an organisation, as shown on the block diagram in figure 3-4, incorporates environmental scanning, which consists of the inherent strategic qualities of being able to probe, scan, have organisational capacity, and possess technological and analytical tools as underscored by Liu (1998a; 1998b) and Cho (2011). These qualities presuppose a methodological approach that supports analysis.

Figure 3-5 below reflects a model by Brownlie (1991) adapted by Munive-Hernandez et al. (2004) that gives insight into the levels at which the environment may be examined, which essentially constitutes a methodology by which the scanning agent may proceed with the external analysis.

Figure 3-5: Levels at which the Environment May be Examined



(Source: Munive-Hernandez et al., 2004: 696).

Munive-Hernandez et al. (2004: 696) identify the micro and macro considerations that an external analysis takes into account. The macro analysis takes into account the broader national and regional issues that may impact on an organisation, wherein Munive-Hernandez reflects a series of considerations beyond the traditional political, economic, social and technological issues (PEST). Grummon (2013) posits a similar set of categories that includes demographics and global education. The micro environment relates to the immediate environment. In the case of TVET colleges, it will include local communities, potential students, high schools, relevant public institutions such as Department of Labour and private education and training providers competing within the same market. The impact of the macro environment is pervasive across the industry, in this case the TVET sector, while the micro factors may impact regionally or locally, and might affect parts of a specific college's subsidiaries or departments.

In TVET colleges, the role of legislative changes and political philosophies, typically macro factors, as discussed in chapter two, has played significant roles in a transformative redirecting of the TVET sector. This does not imply that all colleges, including Majuba College, were prepared for the changes. Changes were more likely to have been forced and would have had the capacity to create internal turbulence, through reactive processes. Notwithstanding, it needs to be borne in mind that the desired impact of environmental scanning, embedded within strategic planning, is to predict and plan so as to either embrace or align with changes, or navigate through turbulence.

In summary, the External Analysis depicted on the block diagram in figure 3-4 may be further unfolded into the environmental framework as depicted in figure 3-5, where figure 3-5 essentially presents an approach in scanning the environment.

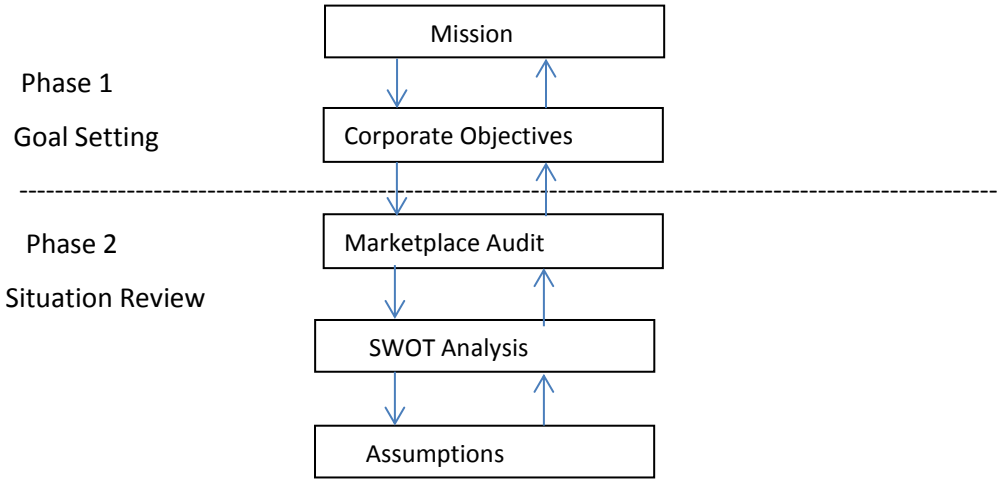
3.2.5 THE NEED FOR A HISTORICAL PERSPECTIVE DURING ENVIRONMENTAL SCANNING

While the literature on environmental scanning may emphasise the examination of current environmental information to project into the next five to ten years, Schriefer (1998: 26) emphasises the need to reflect on the past to seek perspective of the current position, and create credible scenarios for the future. Hence the organisations need to soberly interpret the value of 'trends' in environmental scanning as retracing events and practices into the past in order to lucidly tackle the future. This embraces the adage coined by Winston Churchill

(Langworth, 2011: 576) that the further back one looks, the further one will see into the future.

It may, however, be argued that the process of reflecting on the past is structurally advocated within the *external analysis* of an organisation as reflected in figure 3-4, as it is couched within the strategic planning process. With reference to figure 3-6 below, the *marketplace audit*, as referred to by Radulescu (2012: 222), is conducted after the organisation has established its identity and its goals and objectives (vision, mission and corporate objectives). The outcome of the marketplace audit, essentially an environmental scanning process, is then critically analysed against the organisation's vision, mission and objectives, using a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis. This often reflects upon historical information to critically examine the organisation's strengths and weaknesses to capitalise on opportunities and counter threats in the environment. However, the SWOT analysis does not consciously advocate the reflection of past practices and scenarios. At this point, the deliberate use of tools that take historical information into account using regression techniques to extrapolate future scenarios, as posited by Morrison (1987: 7), may mitigate the oversight of reflecting into past practices. If Schriefer's (1998: 26) insight into the value of reflecting on historical information to create future scenarios is to be given serious consideration, the reflections of past practices and settings might need deliberate and conscious integration into planning during the SWOT analysis. The environmental scan of North Island College (2014: 8, 9, 10, 21, 78) in support of the college's 2016-2020 strategic plan, presents an example of a document that reverts to the past to reflect on opportunities and threats, evident in narratives and comparative tables.

Figure 3-6: A Strategic Planning Process

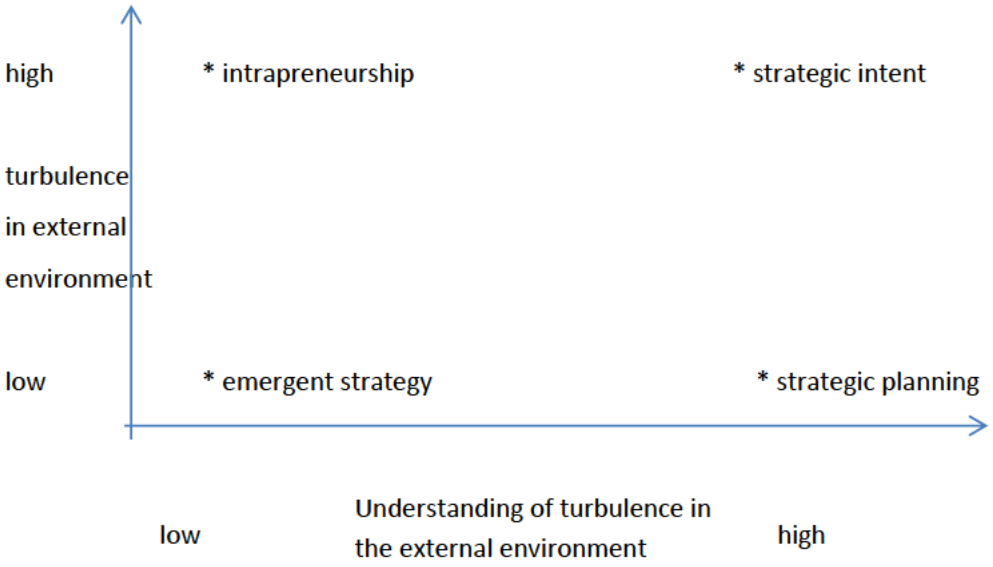


(Source: Adapted from Kotler, 2003)

3.3 ENVIRONMENTAL SCANNING IN RELATION TO STRATEGIC PLANNING WITHIN EDUCATIONAL INSTITUTIONS

A school-based study in the UK (Davies & Ellison, 1998: 138) drew on the work of Boisot (1995: 40) which suggested that an organisation's depth of understanding the turbulence of its external environment determines the type of strategy it will adopt in moving the organisation forward. Figure 3-7 below reflects this graphically on a system of axes, depicting the relationship between the level of turbulence (low to high), against the level of understanding of the turbulence in the external environment (low to high).

Figure 3-7: Typology of Strategies



(Source: Davies & Ellison, 1998: 138)

Figure 3-7 shows that the lower the level of turbulence in the external environment, and the poorer the school's level of understanding of that environment, the more likely the school is to depend on an emergent strategy, i.e. characterised by incremental changes as new information arises. This was perhaps effective in an era when turbulence (essentially the rate of change) was low, and organisations could cope with waiting for information to effect small changes. When changes are rapid, i.e. there exists a high turbulence, and if the organisation does not understand the turbulent environment, then its response could be intrapreneurship.

This assumes an inward focus and the lack of integrated planning; subsidiaries are given the leeway to react to their specific circumstances as they choose to. This is a fragmented approach that may result in pockets of successes and failures.

Davis and Ellison, (1998: 138), using Boisot's model (1995: 40), proffer the view that when the organisation has an understanding of the external environment, and if that environment has a low turbulence, then strategic planning can occur, such that the rate of change is low enough so the organisation is more likely to plan successfully for three to five years. In effect, the low level of turbulence of the external environment provides the organisation with the confidence of predicting events. In the context of an educational system, Davis and Ellison conclude that strategic planning within educational institutions allows for autonomy of planning, and is a measure of organisational maturity. This is in contrast to the more reactive intrapreneurial approach, characterised by little environmental insight, and hence coupled with the narrow focus of completing short-term developmental tasks assigned by planners higher on the bureaucratic ladder.

While Strategic Planning might reflect organisational maturity, Davies and Ellison (1998) argue that in modern times, given globalisation and technological advancements, the level of turbulence of the external environment is increasingly high. Hence, the modern environment is unlikely to be characterised by long periods of slow changes. This school of thought is supported by Zhang et al. (2012: 2) who perceive external environments as uncertain and volatile, to the point where environmental signals are often ambiguous and require interpretation, leading to perceptions of environmental conditions rather than a set of facts. Therefore an organisation that is exposed to a highly turbulent external environment and has a high understanding of that environment, will more likely adopt a strategy of *strategic intent*, rather than strategic planning, as reflected in figure 3-7. This approach is typified by the leadership of the organisation aligning the vision of the organisation with its employees, to provide strategic direction and purpose to focus the employees to the core direction amidst the complexities of the environment. Boisot's model presents an alternative to traditional strategic planning in cases where the rampant turbulence in the environment diminishes predictability. At this point, organisational creativity and flexible decision making would play key roles in navigating through the uncertain areas as broadly foreseen by environmental scanning, which yields some understanding of the turbulence.

Boisot's approach of strategic intent is attuned to similar recent work such as that of Vecchiato (2015) who documented the value of organisational flexibility in a climate of environmental uncertainty in corporate settings. In as much as the Boisot approach of strategic intent is plausible, the extent to which it can practically be realised challenges my imagination. My experience within the TVET sector, including Majuba College, has been that the formulation and monitoring of a strategic plan is a rigorous and demanding process, that itself is prone to gaps in planning and poor tracking. Hence my wariness that an alternative approach of strategic intent ought to carry some sort of administrative rigour and feedback, to not fall into a wishful set of visionary narratives which outstrip its usefulness.

This considered, the Boisot model may be adapted to analyse TVET colleges, particularly Majuba TVET College. It will require some insight into the college's scanning of its environment, as well as the level of turbulence in its local, provincial and national surrounds. The model will be revisited in chapter six, where the nature of the primary data relating to the external environment, as well as the level of the college's understanding of the local environment, becomes apparent.

3.3.1 SCANNING IN HIGHER EDUCATIONAL INSTITUTIONS – INTERNATIONAL PRACTICES

Most secondary sources relating to international practices of environmental scanning within educational settings, scarcely appeared as research material that reflected how environmental scanning is done in educational institutions. It is materialised in Annual Environmental Scanning reports, esp. in US-based institutions. The rationale for the lack of bedrock literature related to scanning in educational institutions is best supported by Morrison and Held (1989). They acknowledged the lag in higher educational institutions in developing and operating scanning systems, by approximately 15 years compared to their corporate counterparts. Morrison and Held, however, noted the changing trend of the leadership within governments to hold educational institutions accountable for their actions, given the quality of entrants into the workforce, global competition, and the steep rise in technological advancements that impact on teaching and learning. He cites the 1988 Virginia Community Colleges Association convention in the US as a landmark event where colleges focussed on environmental scanning, or forecasting, as a system to facilitate planning and tie into institutional strategic planning.

Morrison (1993) relates environmental scanning theory to the college context, drawing from the foundational work of Aguilar (1967) to illustrate the need for colleges to use environmental scanning. He further acknowledges the value of environmental scanning as a part of institutional strategic planning.

3.3.2 SCANNING ENVIRONMENTS IN THE EDUCATION AND TRAINING CONTEXT

Fahey & Narayanan (1986), observe the need to scan on three environments with regard to educational institutions. It is significant that these environments have, for the most part, escaped scholarly attention in educational environments, but have been observed in recent application documents such as that of Moraine Park Technical College (2012), and South Western Illinois College (2013). These reports will be examined in the latter part of this chapter. The three environments are:

- A macro environment – consisting of Social, Technological, Economic, Environmental and Political (STEEP) factors. These factors are likely to have an impact on all colleges in any region or country.
- A task environment – this relates to the institution's customers, which includes students, potential students, parents, political leaders, employers, potential employers of students. These aspects are specific to the particular institution, and less likely to have similar impacts with neighbouring colleges.
- Industry environment – this refers to all institutions associated with the colleges in society, e.g. student aid providers.

Although similar recent research work has been found to be located outside the context of public higher education, example that of Zhang, Majid & Foo (2012: 2), such work has drawn on the importance of environmental intelligence for strategic planning and organisational learning, identifying similar tiers of environments from which information is extracted, in a corporate setting.

3.3.3 ENVIRONMENTAL SCANNING APPROACHES IN THE EDUCATION AND TRAINING CONTEXT

Morrison (1993) relates environmental scanning to education and training institutions. He divides scanning into passive and active scanning. Both relate to the sourcing of secondary materials such as journals and newspapers, but the difference being that active scanning constantly relates new information back to the institutional context, i.e. it attempts to include the systematic use of information as strategic information for planning, incorporating signal changes in the environment. Active scanning is seen as that which consciously covers all three environments, i.e. macro, task and industry environments (Morrison, 1993: 4).

Just as Babatunde & Adebisi (2012) and Liu (1998a: 295) advocated the need for scanning to be continuous, the work of Fahey, King and Narayanan (1981) reflect the value of continuous scanning as opposed to periodic or irregular scanning, but in an educational context. Continuous scanning is seen as a means to counteract the pitfalls of irregular scanning, where the rationale undergirding continuous scanning is that potentially relevant information is allowed to crystallise into meaningful leads. Data or information is typically scattered and initially vague. It is re-examined in new ways by various stakeholders whose very conception of the environment improves with time.

Morrison (1992: 6) draws upon the research conducted by Friedel, Coker and Blong (1991), who surveyed 1000 US colleges to identify institutions that conduct environmental scans. From approximately 600 returns, 32 percent used a continuous system, implying the possibility of these colleges having structured, resourced, scanning approaches for college strategic planning. It would be premature to consider environmental scanning within US colleges to be the benchmark for higher educational institutions, given the lack of available secondary data relating to the same, across higher education institutions of the world. It would, however, be reasonable to perceive the US-based information as a reflection of what is possible, as well as a demonstration of how the general theory of environmental scanning is integrated or actionable within the educational context.

The use of scanning as an active, continuous activity in service of strategic planning is well demonstrated in the case of the University of Southern Indiana (USI) in the USA. Hanka et al.

(2015) depict the transitioning of the University of Southern Indiana (USI) in the USA, to an institution with customised environmental scanning processes that annually informs the university's next iteration of its strategic plan. Hanka et al.'s work is significant as it relates the literature of environmental scanning to USI. It also traces the transition of USI from an institution without environmental scanning, to one that values structured environmental scanning. There are noteworthy parallels that may be drawn between USI's circumstances that prompted its transition, to that of Majuba College. USI's compelling reason for change was that the State of Indiana (federal government) legislated changing the funding criteria for higher education by moving from an enrolment-based funding formula to a performance-based system comprising of multiple formulae. The intention to move to a performance-based system has also been touted by the TVET sector of the Department of Higher Education and Training in South Africa, as gleaned from the Post Provisioning Draft document which emphasises optimisation and quality in its attempt to link programme based budget allocations with post-provisioning norms (South Africa, 2015).

Hanka et al. reflect on USI's former strategic planning processes, which had an inward focus: it sharply responded to internal constituents and their agendas, lacked local external analysis, and depended on state appropriations for much of its operating budget. The outcome of the primary information gleaned in chapter five will reveal the predominantly inward focus of Majuba College's strategic planning, which is a stark similarity to USI's former strategic planning approach.

In USI's quest to reinvent itself, it sought to analyse its competitive strengths against the trends in the external environment in categories that included business, demographics and technology (Hanka et al., 2015: 5). This is exemplified in its mission statement that states USI is an 'engaged learning community', and further specifies its intention of 'fostering partnerships through comprehensive outreach programs'.

Like most institutions that conduct strategic planning, public sector or corporate, the USI environmental scanning model sought to principally use the traditional SWOT analysis, that assists organisations to capitalise on opportunities in the external environment using their strengths, and review their weaknesses against external threats. However, USI included certain competitively enhancing facets in its model:

a) It integrated the GE McKinsey Nine-Box Matrix in its analysis (refer to figure 3-8 below), using parts of the model as a guide to decision making.

Figure 3-8: GE McKinsey Nine-Box Matrix

Business Strength	Industry Attractiveness: High	Industry Attractiveness: Medium	Industry Attractiveness: Low
High	Grow Penetrate	Selective Harvest or Investment	Harvest for Cash Generation
Medium	Invest for Growth	Segment & Selective Investment	Controlled Harvest
Low	Selective Investment/ Divestment	Controlled Exit or Disinvestment	Rapid Exit or Attack

(Source: Hanka et al., 2015: 8)

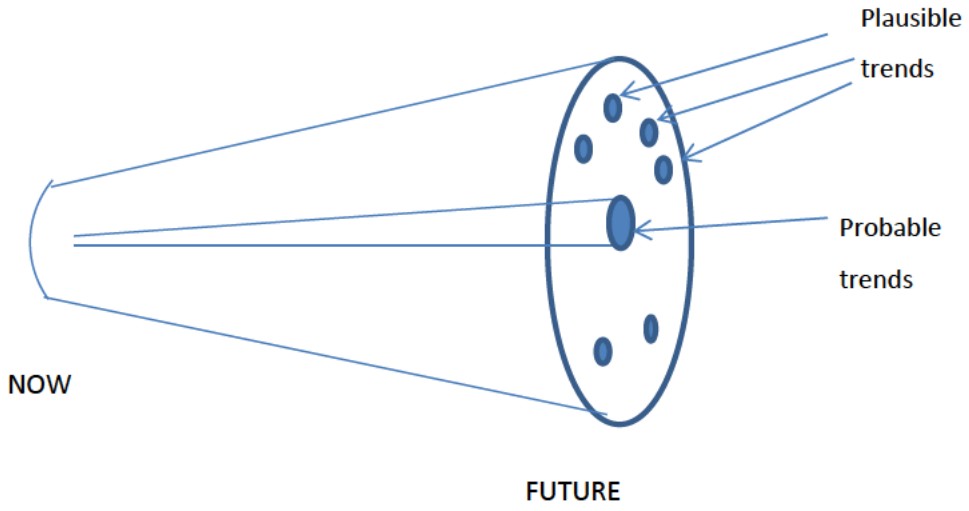
The General Electric (GE) industrial group collaborated with the McKinsey consulting firm in the seventies (McKinsey & Co, 2008) to develop the nine-cell, multi-factor matrix, to analyse business portfolios during the strategic planning process. The figure above illustrates its two dimensions: Industry Attractiveness and Business Strength. Industry attractiveness measures the market potential of a strategic business unit based on growth. Business strength has an internal focus, evaluating the current strength of the organisation in the market, reflecting the ability of that organisation to satisfy market needs. The matrix assists USI, or any public educational provider that might use such a matrix, to objectively evaluate the strengths of its faculties or departments, or project units, against the attractiveness (this measurement may include public sector relevance) of the external entity that it wishes to serve or collaborate with.

The comparison of USI's strengths against the external opportunities is a more considered approach than the traditional SWOT analysis, and provides USI with a different and useful perspective to view the environmental scanning process. The model asks: 'How should the

institution leverage its strengths to respond to trends, distinguish itself, and position USI for future success' (Hanka, et al., 2015: 11). The use of the GE- McKinsey Matrix views the internal and external environments as connected and interdependent, making a critical introspection of internal strengths against external circumstances inevitable.

b) Another facet USI included in their model was Trend Analysis Methodology. USI chose five categories on which to focus its environmental scanning: demographics, business science and technology, governance and higher education (Hanka, et al., 2015: 9). It separated its trend analysis into probable trends and plausible trends, reflecting on global, national, state and regional perspectives (refer to figure 3-9 below).

Figure 3-9: Trend Analysis



(Source: Hanka, et al., 2015: 9)

The scanning team comprised of graduate students, with requisite academic experience, who were skilled in synthesising research, under the guidance of faculty leads. The students were used as scanners; the faculty leads themselves were well experienced in trend analysis in their relevant disciplines. The team met regularly to discuss, synthesise and prioritise the trends, leading to suppositions per category, and making connections between categories. Trends have to be distinguished from events (a one-time occurrence), as well as 'wild cards', i.e. events with low probabilities of occurring, but might have extraordinary impacts if they do (Bengston, 2013: 11). During these meetings, these trends were accompanied by an assessment of USI's competitive strengths through a series of qualitative interviews with

relevant internal and external stakeholders. The thrust of the questioning sought the interviewee's perception of what was the current competitive strength of USI, will it be their strength in 10 to 15 years (if not, what might it be) and what opportunities exist for USI in the future. This work contributed to the vertical axis of the GE-McKinsey's Matrix.

An important feature of the Trend Analysis Committee was that it constantly reported directly to the president of the University's council. The work of the Trend analysis team is followed by a President's Council meeting for a 'deeper dive' discussion into the outcomes of the Trends Analysis committee. The outcomes of the environmental scan are also presented to university stakeholders at the unit and programme level, making all stakeholders embrace the impact of environmental matters on their work.

The USI model is significant as it is not only a demonstration of how an educational institution uses the corporate environmental scanning literature to develop their strategy, but also is an example of a how an institution may creatively integrate theories to enhance environmental scanning, in service of strategic planning.

3.4 THE IMPACT OF ENVIRONMENTAL SCANNING RELATED TO EDUCATION AND TRAINING ON LABOUR MARKETS – AN INTERNATIONAL PERSPECTIVE

Bird (2008) explores the experiences of four countries that had adopted and implemented national skills strategies (Australia, Singapore, Malaysia and South Africa), on behalf of the International Labour Relations Organisation (ILO). The ILO conducted its investigation in recognition of education, training and lifelong learning as that which is required to contribute to promoting the interests of individuals, enterprises, the economy and society. All the while, they considered the challenges of attaining full employment, poverty eradication, social inclusion and sustained economic growth in a global economy (ILO, 2005). Bird's finding of the 'core of the problem' was the difficulty in interfacing between the labour market and the ETD provider community. While labour market conditions change continuously, the ETD provider community tends to consolidate rigidly behind its sets of programmes, training practitioners and facilities, whose intention lies not solely on the need of delivering graduates to the labour market. This finding has congruence in the South African context, where the disconnect between the labour market and ETD community manifests itself in the lack of a reliable

database of primary research into the various sectors of the economy. The South African context will be further explored towards the end of the chapter. At this stage it is significant that the absence of reliable information relating to the labour market in South Africa would, in terms of Bird's rationale, translate to a market disconnect with ETD providers.

Bird's (2008: 34) assertion that the rigidities of the labour market side play its role in unionisation that leads to a 'closed shop' that restricts the supply of human resources, and protects wage levels, is prevalent in the South African economy. Notably, it has recently been a source of conflict where unions, including NUMSA[6] and COSATU[7], challenged the Employment Tax Incentive Bill – a bill designed to provide tax incentives for companies to employ youth seeking working experience – such that the bill was stalled for three years since its introduction (Marrian, 2013). Bird also cites rigidities on the side of ETD providers that run rife in the form of outdated curricula and poor quality programmes delivered at times that are inconvenient to clients, as learning is accommodated around rigid working times, convenient only to providers. The relevance of curricula and the adaptation of delivery of education and training to client schedules, will be taken into account in this research, as it would reflect the degree of integration or disconnect between Majuba College and its environment.

3.4.1 INFERENCES FROM INTERNATIONAL ENVIRONMENTAL SCANNING REPORTS WITHIN EDUCATION AND TRAINING CONTEXTS

Despite the lack of literature from educational institutions relating to environmental scanning, there exists material in the form of institutional scanning reports. These reports reflect that the practices of those educational institutions may be underpinned by environmental scanning literature, or institutional policies or traditional practice. It may therefore be useful to review a few reports and pattern them back to the underlying literature of environmental scanning. These reports may attest to the applicability of the theories and their outcomes in practice.

Three available reports are considered, the first bearing the hallmarks of the continuous environmental scanning process, couched within strategic planning. The second is similar, but not structured in the internal-external format, yet containing the STEEP analysis. The third is an ad-hoc report, markedly different from the others. The reports are listed below

[6] National Union of Metal Workers of South Africa
[7] Congress of South African Trade Unions

respectively:

a) The Environmental Scan and College Data Report (Moraine Park Technical College, 2012) of Moraine Park College reveals three components of information. The first is the environmental scanning itself, where the categories are: population or demographic information, retirement studies, competition and marketplace trends, economic and workplace trends, education trends, Food and Agriculture industry trends, technology trends and new megatrends. This approach is resonant with the earlier literature relating to the micro and macro scanning. Section 2 of the report takes on an internal focus, an approach that aligns with the internal analysis component of general strategic planning theory. It refers to the internal information as 'college data' which includes factors such as: student demographics, program offerings and Full-Time Equivalents (FTEs), instructional methods, economic workforce and development, student grants, information technology used by the institution, and financial information. The final section of the report is entitled 'Details' and gives a critical overview of the information or data relating to the external scan in section 1, in relation to the internal information in section 2, expressing recommendations to capitalise on trends, using the college's strengths, and being mindful of inviting changes owing to trends that threaten the college or faculties thereof. Inherent in this approach, is a SWOT analysis. The process used by Moraine Park Technical College is typically phase 2 of figure 3-6 reflected earlier, which is a part of the classical strategic planning process. Importantly, it reflects an affirmation, by way of praxis, of educational scanning research established more than two decades ago.

b) Similarly, the Environmental Scanning Report of South Western Illinois College Report of May 2013, reflects a combination of internal and external information, in no particular order, but may be sifted into these categories. The internal information takes the forms of enrolment assessments, financial aid, student retention, etc. The external information leans toward economic factors in the form of mortgage foreclosures, home prices, unemployment rates, development activities, etc. A section is dedicated to revenue, which reflects a combination of internal and external factors. A further section looks at higher education trends including technological trends. The penultimate section focuses on developments in local community outreach, which includes linkages and partnerships. The final section conducts a SWOT analysis. This report could be rearranged to fit into phase 2 of figure 3-6 to feed into strategic planning, as was the case with the report of Moraine Park Technical College.

c) In contrast, the planning of California Community Colleges is conducted by the Centre for Student Success, a research organisation of the Research and Planning Group for California Community Colleges (RP group, 2005). This is an example of a group environmental scan, performed for 72 community college districts. The review points to two other important aspects that deviate from the approach used in Moraine College:

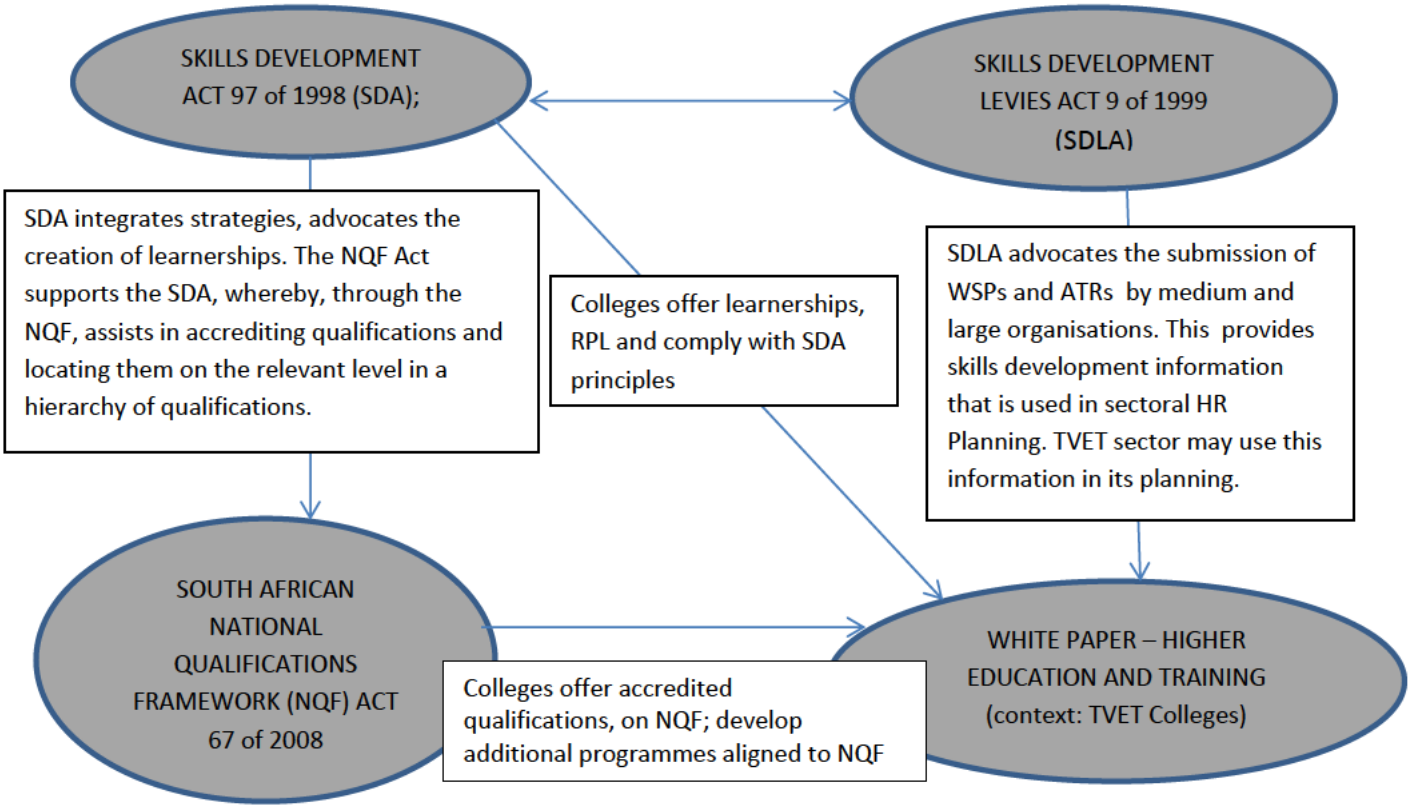
- The research thrives on secondary data alone, such as the review of national and state literature pertinent to education policy.
- It also includes an examination of State MIS information for the past five years, implying that planning is informed by information that is neither primary nor sourced continuously. It fits into the category of *ad-hoc* planning, as suggested by Babatunde & Adebisi et al. (2012) earlier in this chapter, and reinforced by the phrase 'scanning for planning ' (Russel and Prince, 1992).

The centralisation of research activities to serve the needs of 72 community college districts in terms of environmental scanning information, may justify an ad-hoc or regular type of scanning built on secondary data for practicality. Some of these facets of planning will feature in the primary research in chapter five, which will reflect that Majuba College's planning depends almost solely on secondary data as well as state documentation, which is more likely to fit into the category of ad-hoc planning rather than regular or continuous scanning.

3.5 ENVIRONMENTAL SCANNING RELATED TO SOUTH AFRICAN TVET COLLEGES – A SECTORIAL AND NATIONAL PERSPECTIVE

Chapter two proffered a background on TVET colleges which included an overview of the legislative framework that impacted on the TVET college sector. A significant aspect of the legislation is its intention to promote the reporting of skills development, furnishing information or data from various sectors of the economy, to be consolidated by the Sector Education and Training Authorities (SETAs) of the Department of Higher Education and Training. The illustration below summarises the key relationships between various legislative prescripts relating to skills development.

Figure 3-10: Relationships between Legislative Prescripts relating to Skills Development in South Africa

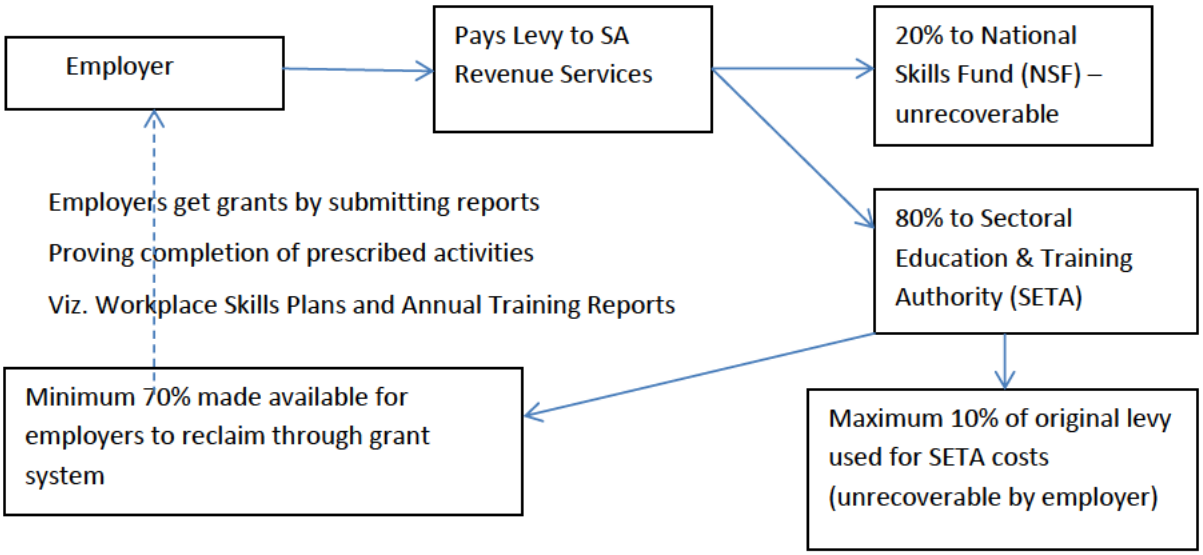


(Source: Lakhan)

The Skills Development Act (SDA) 97 of 1998 promotes an institutional framework to plan and implement national, sector and workplace strategies to develop and improve the skills of the South African workforce. This Act aims to align such strategies with the National Qualifications Framework (NQF) as outlined in the National Qualifications Framework Act of 2008. In essence, the NQF Act gives legitimacy to the principles of articulation, portability and recognition of prior learning espoused by the SDA, by providing a hierarchy of qualification levels against which all qualifications may be measured. The NQF Act paves the way for the development of learnerships by employers and/or SETAs as advocated by the SDA, assuring the credibility of such qualifications.

The Skills Development Levies Act 9 (South Africa, 1999b) provides the incentives for organisations to fund skills development. The following reflects a schematic representation of South Africa's Skills Levy system (Lee, 2004):

Figure 3-11: Schematic Representation of South African Skills Levy System



(Source: Adapted from Lee, 2004: 244).

3.5.1 THE MANAGEMENT OF SKILLS DEVELOPMENT LEVIES AND ITS ROLE IN THE PROVISION OF SKILLS INFORMATION

The Skills Development Levies Act is aimed at instituting the skills development levy, whereby medium to large businesses that meet certain conditions, are compelled to contribute 1% of their payroll to fund education and training within their respective economic sectors. As reflected in the block diagram (figure 3-11) adapted from Lee (2004: 244), the employer pays 1% of its payroll as a Skills Levy to the South African Revenue Services. Twenty percent of the funds are transferred to the National Skills Fund (not directly recoverable by the employer) while 80% is transferred to the relevant SETA. The employer is able to recover up to 70% of transferred funds from the SETA, provided that the employer engages in skills planning and implementation for its workforce and reports on such activities in line with the SETA's reporting requirements. More specifically, each affected organisation is compelled to submit a Workplace Skills Plan (WSP) to the SETA, which is a plan that profiles the education and skills of employees within the organisation and plans to upgrade the employees' education and/or skills. The organisations that comply with the 1% contribution of a skills levy to SARS, followed by a WSP to the SETA, are eligible for a 50% rebate. This is followed by the need to submit an

Annual Training Report (ATR) to the SETA, which reports on the training that ought to have been done, for a further rebate.

This segment of the literature review focuses on the sector skills information gathered through the Skills Levies system. While the preceding background information is important in understanding the context in which information is gathered via the SDLA, and its relationship with the legislative framework relating to Skills Development, the thrust of this segment of the literature review is an exposition of the credibility and relevance of the sector skills information on TVET colleges. It is significant to acknowledge that the sector skills information serves as the only form of ongoing 'research' or national audit of skills development in South Africa. This 'research' (or more appropriately, information gathering), is in the form of the relevant SETA's summary of organisational reports (WSPs and ATRs), which represents the only documented, annually gathered information that may be construed as a form of primary research into skills planning within a sector. Given the value of primary research related to skills development, to determine skills gaps and recommend interventions, it becomes increasingly important that this work reflects upon the reliance of the sector skills information, as that which informs skills planning in South Africa, and more specifically, within local environments. This information becomes important in addressing the research question: 'to what extent does Majuba College have a fair understanding of its local environment?'

The above prompts the plausible view that the intention of the South African government in collating skills development information in this way is secondary to its intention of incentivising businesses to finance education and training within their workspaces. This is easily gauged from the SDLA which is primarily concerned with the administering of the skills levy and associated rebate system (South Africa, 1999b). Lee (2004: 242) measures the participation of firms in the Skills Development System. His findings assert the need to take into account the economic conditions under which the skills incentive stimulates participation by organisations. While Lee acknowledges that the SDLA affords an organisation to claim back as much as 70% of the portion of its levy transferred to the relevant SETA, he presents the view that this is practically not the case.

3.5.2 THE IMPACT OF THE COMMITMENT OF BUSINESSES TO COMPLY WITH THE SDLA, ON THE EFFECTIVENESS OF SKILLS INFORMATION

The commitment of business to comply with the SDLA is an important factor that contributes to the perception of how useful the collated WSP and ATR information is for national skills planning. Lee (2004: 244) identifies certain variables of interest that an organisation will consider in deciding whether to participate in activities to claim grants:

- Will the activities of participation be profitable for the firm before the introduction of the Levies system? Lee posits the view that if firms believed that the benefits of training were profitable to the organisation in the long term, they would have begun training programmes before considering the levy system.
- The value of the levy amount itself.
- The grant amounts.
- The transaction costs of dealing with the reclaiming of the grant. Lee (2004: 246-7) refers to the fact that companies incur costs by either expanding or changing job functions for selected employees to manage the SDLA requirements, or hire Skills Development Facilitators, or outsource such functions.

Hence, Lee refers to the levy grant system as creating a *prima-facie incentive* (Lee, 2004: 242), whereby on the surface it would seem a reasonable incentive, but certain prohibitive factors constrain the participation of organisations. Some of these factors are: costs relating to the entry of grant disbursement systems, administrative challenges, and perceived return on investing in new training activities. This view is reinforced by Dougherty and Tan (1997), who maintain that organisations may consider it more efficacious to merely incur the levy than bear the prohibitive indirect costs and the inconvenience of dealing with a complex bureaucratic system.

A poignant argument pitched by Lee is that the profitability of planning is inextricably linked to that of implementation, resulting in uncertainty in profitability. Grant A (planning) precedes Grant B (implementation), therefore an organisation will have to do planning first, and submit its WSP to SARS. If planning is unprofitable, then the profitability from implementation must cover the loss from planning. This situation is exacerbated by the prospect of implementation

being a series of incremental activities, rather than a single activity, resulting in proportional grants.

Lee (2004: 252) also explores the vulnerability of small organisations compared to large ones. Small organisations may not have 'slack' staff available to send on training, or large administrative departments that may absorb the skills planning function. Lee (2004: 254) also mentions the legitimate fear of many organisations to perceive that they might be training staff to become more employable ('training people out of the door'), and hence potentially leave the company, especially in competitive markets.

Lee's findings bear greater relevance if one refers to a study by Allyson Lawless (2004), a former president of the South African Institution of Civil Engineering (SAICE), as documented by Shorten (2004: 8). Shorten reflects on Lawless' findings, where less than 10% of employers submit WSPs (i.e. 500 of a possible 6000). Even fewer employers complete ATRs; Lawless concludes that large amounts of funds earmarked to address skills shortages within a sector, lie unclaimed in government coffers (Shorten, 2004: 8). As much as R137 million in skills levy taxes had not been used prior to 2004, because employers had failed to put training programmes in place.

A more recent investigation into the efficiency of SETAs by Turner, M. et al. (2013), based on an input-output model taking into account 21 SETA annual reports from 2005 to 2009, revealed that only two SETAs were efficient with respect to their utilisation of funds, and only five SETAs met their own targets. It must be borne in mind that the criteria of the input-output model included:

- Whether the SETA's objectives were met.
- Whether they were efficient, based on income versus expenditure.
- Whether they had excessive cash reserves (percentage unspent funds).

The inefficiencies of SETAs drawn from the recent work of Turner et al. might not be sufficient to allow one to conclude that it is a reinforcement of Lee's earlier findings of poor reporting of skills information. It does, however, allow for inferences of a SETA system that is yet plagued with dysfunctions.

The above reflects the rationality of organisations to forgo or limit their involvement with the SDLA and accounts for the low percentage of participation by organisations in the skill levy system in South Africa. This suggests that the use of information gathered through the SDLA regarding skills development is unlikely to serve as a comprehensive primary source of information that may constitute a national skills database.

More significant to this work: how important is the sector skills information as a source of environmental scanning, for public colleges? The literature review of environmental scanning suggests that any labour market information is useful to environmental scanning. However, it is reasonable to assume that if the SETA skills information sourced through the SDLA is not a comprehensive primary source of national skills information, it is not likely to serve as such for the TVET college sector. The sole reliance on the sector skills plan for colleges would more especially be inadequate, given the need for colleges to cater for local community needs as articulated in the White paper for Post School Education. It would therefore be sensible to regard the sector skills information as one of several sources of information that requires critical review and assimilation.

3.6 A SYSTEMIC NORMATIVE MODEL OF AN ORGANISATION THAT IS VIABLE AND RESPONSIVE TO ITS ENVIRONMENT

The literature review had progressed from examining environmental scanning, to an elucidation of continuous and active environmental scanning in complex settings. This led to reflections on the integration of environmental scanning as a strategic activity that feeds into strategic planning. The integration and processing of environmental information by an organisation had been regularly viewed as a preferred practice, as observed from the work of preceding scholars such as Liu (1998a), Hanka et al. (2015), as well as Kotler (2003). This is exemplified by Kotler's customer focussed concept, which was customised to a TVET setting (refer to figure 3-2b and 3-3b). The emphasis of the integration of the organisation with its environment reinforces the contention by Mason (2007) and Fabac (2010) referred to earlier, of recognising organisations as Complex Adaptive systems that ought to adapt to environmental changes.

It is therefore appropriate to reflect on the most viable organisation as an organismic entity

that adapts or co-exists with the environment, as advocated in the work of systems theorists such as Jackson (2003) and Flood (2010) who draw upon the adaptive quality of Von Bertalanffy's (1969) approach of viewing organisations as open systems. At this point, it needs to be appreciated that 'viability' refers to the capacity of an entity to maintain its separate existence, that is, to survive in spite of changes in the environment (Ruiz-Martin et al., 2016: 3).This is in keeping with Beer's (1974: 39) elaborate reflections, wherein he implies that being viable is doing what the dinosaur did not: learn and respond in time, adapt and evolve. Espejo (2000: 5) aptly extends this definition in terms of an organismic model of an organisation within Systems Theory. He considers a system viable if it has the capacity to 'create, regulate and implement its own policies' with emphasis that all three components, i.e. creation, regulation and implementation capacities, must be available in the system to be considered viable.

This research therefore reflects upon the Viable System Model (VSM) developed and improved by Stafford Beer over three decades, with specific reference to his key writings: Brain of the Firm (Beer, 1981), The Heart of Enterprise (Beer, 1979) and Diagnosing the System for Organisations (Beer, 1985). The VSM is chosen as it embodies viability and relates it to organisations. Its location in the field of Systems Theory and its usefulness with respect to its environment will be revisited in greater detail in chapter four, whereupon the value of a normative entity that is in tune with its environment, should gain greater appreciation. It will be observed that the Systems Approach also provides the foundation for the methodologies and methods for this research. However, the intention of positing the VSM within the context of Systems Theory supersedes its use as a methodology. The model may serve as a diagnostic tool or design instrument that assists in organisational design or adaptation. The rationale for its selection in the midst of other possible systemic approaches will also be elaborated in chapter four.

3.6.1 VIABLE SYSTEM MODEL (VSM)

The most appropriate work that epitomises the organisation as an organism and a brain is the work of Stafford Beer (1979). The organism metaphor views organisations as wholes, made up of interactive parts that function to ensure survival and adaptability to their environment. The brain metaphor reflects an intelligent structure that is self-producing and autonomously

controlling. Beer sought an organisational design wherein the organisation behaved with resilience and self-regulating abilities, adapting to its surroundings in the face of complexity. He perceived the ideal organisation as a set of interactive systems as the brain, that is able to adapt to environmental changes and challenges. Hence, his model of a viable system (the VSM) is underpinned by cybernetics. Which refers to the science of controlling (Beer, 1959), used in engineering disciplines where feedback of information solves problems of timing and control. Jackson (2003) locates the paradigm that the VSM relates to as inevitably structuralist within the functionalist domain, with its usefulness bent towards goal seeking and viability.

Figure 3-12 below shows a simplified version of Beers Viable Systems Model, adapted from Beer (1985: 24). It illustrates the basic constituents of the VSM.

Figure 3-12: Basic Components of Beer's VSM

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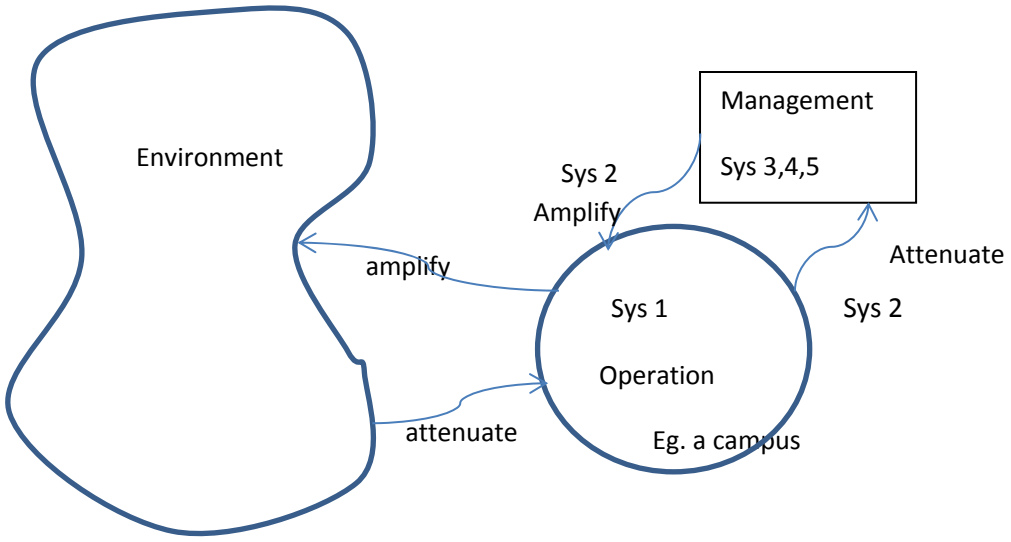


(Source: Beer, 1995: 24)

The 5 components in Beer's VSM has been appropriately allocated an acronym by Stephens & Haslett (2003: 2) as the 'PICCO' approach, i.e. Policy (system 5), Intelligence (system 4), Control (system 3), Coordination (system 2) and Operations (system 1). It suggests that a VSM will comprise:

System 1: An Operational unit (O) which is reflected by the circle, i.e. the coalface of the organisation, where work is done. This is typically a delivery unit reflecting the core activity. In

the case of a college, it may reflect a subsidiary such as a campus. It will be elaborated in later paragraphs, that this operational unit would embed features of systems 1, 2, 3, 4 and 5, and may hence be considered viable itself.

System 2, 3, 4 and 5 reflect managerial functions related to the operational unit.

System 2: refers to Coordination (C) of the operational unit‘s activities; it ensures that policies and procedures are followed by operational units, thus ensuring the uniformity and consistency of operations.

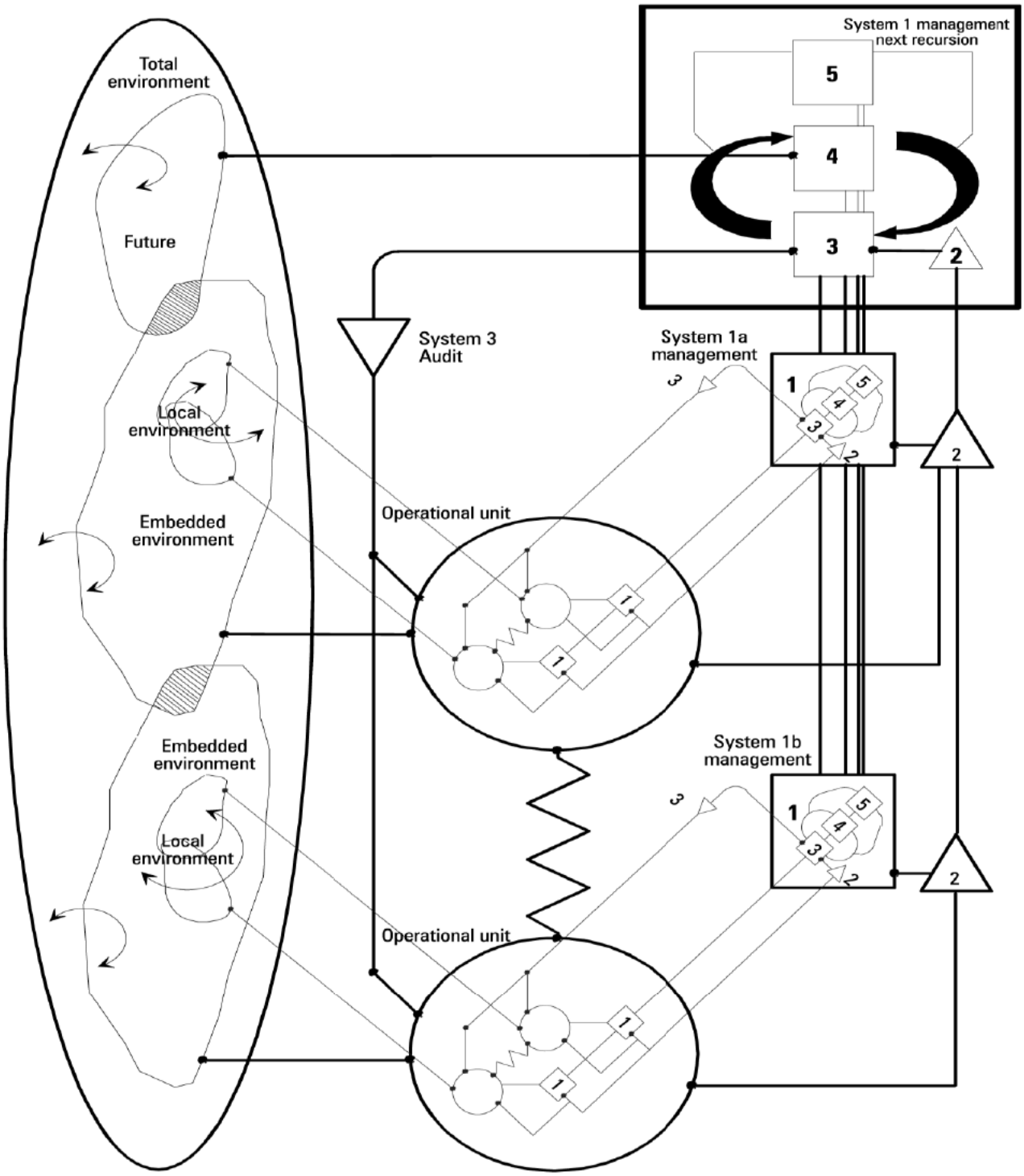
System 3: refers to Control (C), which typically has cross-cutting functional tasks that ensure that organisations balance environmental issues gleaned from systems 4 and 5 with internal systems. System 3 also serves to share resources amongst operational units and iron out conflicts where activities of one operational unit impacts on the other.

System 4: refers to Intelligence (I) which reflects upon environmental information. This unit scans its external environment on a macro level, while its lower recursive states (this term is addressed in successive paragraphs) will scan segments of the environment. It is noteworthy that System 4 has a significant outward focus.

System 5: refers to the Policy (P) related issues of the organisation, where Intelligence regarding the internal and external environment is used to create or adapt policies to align the organisation with its environment. During this process *variety lags* or *excesses* are balanced off (this concept will be clarified in succeeding paragraphs).

Refer to a more comprehensive depiction of the VSM (figure 3-13):

Figure 3-13: Depiction of a VSM



(Unknown source – www.defyingtherules. Wikispaces.com/file/views/Ants)

Refer to the PICCO elements in figure 3-13, identified with the same symbols as figure 3-12:

a) The Operational Unit/s (encircled on the sketch) - this represents multiple operational units, the larger circle could be a campus in this study, while the embedded circle might represent a department within the campus.

b) The Management system which is part of the Meta System, comprises of No. 2, 3, 4 and 5 (Coordination, Control, Intelligence and Policy, as referred to earlier). Significantly, this management system recurs on a lower level (it could also recur on higher levels), evident in system 1a management and 1b management. The management system is designed to ensure all the parts of the operation cohere into a single integrated whole. Each management system services each of the respective operational units to which it is linked. A characteristic of the VSM is that as operational units are increased, an associated management system is a part of each such operational unit, ensuring the viability of each unit, but also the viability of the larger system.

Unit no. 2 serves to deal with conflicts of interest. The management system has an auditing and coordinating unit represented by lines (refer to no. 3), ensuring that policies are followed, and there is interrelation amongst the operational units it serves. Subsystem 4 represents a development unit that analyses the environment, seeks opportunities and detects threats and gives feedback to initiate necessary change. Subsystem 5 develops the policies and ground rules by which everyone works; it sets out the direction and ethos of the system, and balances out the variety lag between the operation and environment.

c) The External Environment; each operation has a niche external environment. In the case of a college where the operational unit is an engineering department, the external environment may be segments of potential students, local industries, manufacturers, Department of Labour, etc.

Before analysing the model further, it is important to acquaint oneself with the following concepts that underpin it:

- Beer adopts the Principle of Requisite Variety advocated by Ashby (1956) as a fundamental

aspect of the VSM. This principle states that 'only variety can destroy variety', implying that the variety of the environment must be matched by an equal variety of the operations, which in turn ought to be matched by the variety of management. If the variety of the environment is too high, it is recommended that there be *attenuation* of the information from the environment which is essential for survival, as reflected in figure 3-12. Attenuation refers to the process of paring down information, to diminish its variety for easier handling. This is typically done by segmenting the environment and prioritising segments that may be serviced, or specifying criteria of the clientele or materials that may be dealt with. A college such as Majuba College might typically do this by niching its campuses into certain fields of study as well as setting out criteria for eligibility of learners into its programmes. Similarly, the variety of the operations is much higher than that of management, warranting the attenuation of the information emanating from the operational units to management.

Alternatively and/or concurrently, if the variety of the operations is too low compared to the environment, there may be a need for *amplification* of the response from the operations. This, for example, could imply that management might recruit more personnel into the operational units to handle responses, or enhance IT systems that can manage a greater number of responses.

Fitch (2006: 65) summarises the role of management as balancing the amount of variety amongst the environment, operations and management by attenuation and/or amplification, to ensure organisational viability. Beer (1985; 1989) expounds on such balancing by drawing upon the principles of cybernetics to delineate the need for effective feedback and control. Recent studies, such as that of Alvarez-Molina et al. (2016), emphasise the effectiveness of the employment of IT systems to markedly improve feedback and self-regulation mechanisms in the VSM.

- The model would be a fractal (recursive) layered structure, i.e. the internal structure is a replication of the larger structure, and so on. Beer (1974: 17) refers to recursion as the 'duplication of a cybernetic system of regulation […] over and over again, using the same components with appropriate variety adjustments'. Hence, complexity is minimised or understood by the replication of the same type of structure several times.

- The operational units will enjoy maximum *autonomy*, except in cases where *cohesion* is prioritised ahead of autonomy. Hoverstadt and Bowling (2002) describe 'cohesion' as those management processes that build the primary activities into a greater whole, leading to the linking of subsystems to the larger system. We are reminded that primary activities are always those activities that are the reason for the existence of an organisation (Hoverstadt and Bowling, 2002: 4). Van Caspel (2011: 12) refers to the need to set goals for the primary functions to ensure the translation of the mission of the organisation into action, and that through monitoring of such actions, control will ensure cohesion.

Beer, in 'Designing Freedom' (1974: 31) uses the analogy of the raising of children to illustrate the necessary balance of autonomy and cohesion. He reflects on the need for growing children to fit into a family regulatory support system, which ought to provide a level of centralised authority, yet attain a necessary level of decentralisation and hence, autonomy. Implicit in this analogy, for an organisation, is the need for emergence through a level of autonomy within a fractal or recursive system. Hence, despite the allotted autonomy, the primary activities are made to cohere with the centralising presence of the meta system, and its recursive states. Beer perceives the cybernetic tools within the recursive system as ensuring that coherence is achieved without sacrificing autonomy.

- The model is aimed at viewing the whole (system) and interaction between its parts, rather than viewing the organisation in a reductionist way.

The above principles are evident in the VSM as a continuously interacting, self-managing unit.

3.6.2 THE IMPORTANCE OF RECURSIVITY OF THE VSM IN REDUCING THE COMPLEXITY OF MANAGING

An important feature of Beer's Viable System Model, reflected as a principle above, is that Viable Systems have viable systems inside them, i.e. the system is recursive or fractal. This also implies that the embedded viable system model within, is structurally the same as the initial one. Recursivity therefore refers to the idea that systems exist in hierarchies; organisational forms of higher level systems recur in lower or subsidiary systems. Hence, if the operation was a campus, the embedded, second order viable system, might reveal its operations to be the department of mathematics, which would have its own management system, and this

recursive nature could continue. Notwithstanding the different operations across fractal levels, each level experiences the recurring and similar checks and balances, controls and processes, irrespective of the variations of the content of the interactions. This is referred to as the 'unfolding of complexity'.

Hoverstadt and Bowling (2002: 8) and Hoverstadt (2010: 93) point out that since the VSM is structurally recursive, it is expected that staff throughout the organisation, not just top managers, be responsible for developing policies (level 5) and performing work at different levels within their areas of concern. This implies that the VSM model presents a participative approach to formulating and implementing policies, albeit at different recursive levels. The implications of this observation refocuses one to the inescapable reality that each recursive state undergoes similar organisational processes. Each seeking viability, and providing a platform for autonomy and leadership as it seeks to understand its sub-environment (level 4) and participate in policy and decision making (level 5). This characteristic is pertinent to this research.

At this point, it becomes apparent that recursivity assists in dealing with complexity. Midgley (2006b: 20) reflects upon the hard lessons learned by systems scientists of the 60s who attempted to construct 'super models' and had their visions dashed by the scale of unfolding complexity of the tasks. It becomes increasingly clear that the recursivity of Beer's VSM alleviates the need to over think modelling in the midst of a complex environment. Recursive states may be added on later, and are autonomous enough to view their own environments at each recursive level, and mutate to align with their market segments' needs.

3.6.3 VSM FOR DIAGNOSIS OR DESIGN

In the limited body of work that relates systemic management with the TVET college sector, Hardman (2013) favours the VSM as a model to assist in the enhancement of the capacity of TVET colleges to engage in partnerships. His intention clearly reveals the possibilities of working within a design mode. In this research, I approach the VSM from the environment (output to input), bearing in mind the richness of the critical environmental information that ought to inform the internal operations of the organisation. The VSM may be used for diagnosing problems that limit its effectiveness by mapping the college organisation to an ideal

VSM. At this preliminary stage there is sufficient information to indicate that some VSM principles are evident within Majuba College, hence the intention to diagnose is plausible. The VSM, whether used in the design or diagnostic mode, presents an opportunity to view the impact of the environment on organisational design, in a practical, non-reductionist way. Hence, the ultimate organisational design ought to be a reflection of the understanding of the changing environment. The VSM is contextualised within the field of Systems Thinking in chapter four, and applied to Majuba College in the diagnostic mode in chapter six.

3.7 CONCLUSION

The literature review illustrates the relevance of environmental scanning in the understanding of the external environment, in order for an organisation (in this case, an educational institution such as a public college) to plan to serve or thrive in that environment. It is evident that environmental scanning has played a significant role in the corporate world. Literature related to environmental scanning may be traced back to the 1960s, gleaned from pioneering work of authors such as Aguilar, until recent times reflected in the work of authors such as Cho (2011), Choy (2012), Liu (1998), Fabbe-Costes et al. (2014), and Du Toit (2016), from a South African perspective. It is noteworthy that both older and recent literature has either tacitly or overtly spelled out a taxonomy for environmental scanning. The literature referred to scanning at industry/task or micro and macro levels, while the scanning approach itself was suggested to be on an ad-hoc, regular or continuous scanning basis. Most researchers who deliberated upon environmental scanning, referred to the merits of a broad-based surveillance versus a focussed approach of scanning, in some form or the other. The more recent work recognised the broad-based approach as a means to explore and unravel complex scenarios, to assist in prioritising areas in which a focussed approach may be employed to capitalise on opportunities.

The narrative in the nineties increasingly recognised the strategic nature of environmental scanning, and located environmental scanning as part of the external analysis of the strategic management process. This ensured that environmentally scanned information was processed and introspectively reviewed against the strengths and weaknesses of the organisation, in pursuit of capitalising on opportunities and minimising the risks of threats from the environment. Successful organisations recognised environmental planning as an essential

means of traversing through the complexities of modern change, let alone a competitive advantage. A resounding concern has been that rampant globalisation and technological advancements have increased the turbulence in the environment, increasing its complexity, which in turn has elevated the value of environmental scanning. The work of Boisot (1995) drawn by Davies & Ellison (1998) and more recently, Vecchiato (2015) recognise the value of a strategic intent and a more flexible approach to strategic planning respectively, in response to environmental uncertainty. Recent research, bolstered by the concomitant practices of modern organisations, allows one to draw the conclusion that the increasing integration of information technology in environmental scanning, and direct support by a cognitively diverse band of top managers, are key competitive advantages in fast changing times.

The use of environmental scanning within an educational context in the public sector is more recent than that of corporate entities; there exists a shortage of scholarly work in this area, and almost none locally. The studies of environmental scanning related to international universities and colleges in this review are significant, albeit the only available work emanates from educational institutions of North America. The work of Hanka et al. (2015) which tracks the turnaround of the University of Southern Indiana (USI) from an inward focussed institution to an organisation in tune with its environment, presents a useful case study that brings to the fore the practical interaction of significant concepts of environmental scanning and strategic planning. It lends insight into their interpretation of the environmental scanning literature that had characterised the corporate domain, and reflects their creative mix of business concepts to yield what essentially is a public service. It is of interest to this work that USI's catalyst for shifting towards a strategic paradigm that employs environmental scanning, was the tightening of controls by the US states. The particular federal governments influenced the universities/colleges' shift to a strategic scanning mode by instituting performance driven budgets, couched within a framework of provisioning regulations and norms.

There exists a dearth of research and records of regular practices relating to environmental scanning within South African educational institutions. The probable cause of the absence of such work is captured in the research work of Jansen van Vuuren (2002). It concluded that although most South African universities rated environmental scanning as very important, there is 'no formalised, strategically aligned effort to integrate the findings with the strategic direction of the institution.' This is a substantial observation given a significant part of the

South African university sector, at the turn of the century, was arguably well established for the most part, with international benchmarks, albeit in the process of transformation. Hence, in keeping with Jansen van Vuuren's findings, it follows that the paucity of scholarly work related to environmental scanning for the fledgling TVET sector of South Africa, may implicitly be the result of the lack of established environmental scanning strategies within the college sector.

The sector skills plans, which are nationally driven through the SLA and SDLA, reflect a significant collation of information relating to labour market needs, and ought to be useful in understanding the local labour market environment. Its prominence as a means of sectorial planning and subsequent organisational planning, is enhanced by the scarcity of other research into the labour environment. The available scholarly work in sector planning makes it clear that there are challenges, ranging from poor compliance from organisations, to perceptual challenges. This leads to the point of view that the sector skills information lacks comprehensiveness. The pitfalls of construing sector skills information as research information of the labour market are supported by the rationality that the gathering of sector skills information is not underpinned by a research-based methodological approach. It is clear that its information gathering thrives on the voluntary compliance of organisations in submitting primary source documents, for objectives that are related to tax incentives rather than principally information seeking.

While this work seeks to explore: 'to what extent does Majuba College have a fair understanding of its environment?', the literature review inadvertently draws one's attention to the underlying necessity of an organisation understanding its environment. Such an organisation is responsive to surrounding needs, and its relevance is enhanced.

The literature review progressed to unfold the importance of organisational responsiveness to the impact of increasing environmental change. Organisations that were responsive to the environment were more likely to thrive or survive. Stafford Beer's Viable System Model, a model created to design or diagnose viable institutions so that they are in sync with their environment, was selected as it encapsulates the convergence of several of the above concepts. The VSM, used as a diagnostic tool, presents an opportunity of exploring the question: 'to what extent does Majuba College have a fair understanding of its environment?'

The literature review compels one to sharpen one's focus on a visionary institution that is integrated with the dynamics of the world that it serves. This institution interacts with local communities and businesses, and continuously morphs to the changing environment, while transforming the environment itself, in a restless cycle of mutual development. Its leaders are pliable and proactive, continuously scanning, readjusting plans, finding opportunities and side-stepping threats, as they take the forefront in the twists and tremors of change.

4. CHAPTER FOUR

AN INTRODUCTION TO SYSTEMS THINKING AND ITS APPLICATION TO THIS WORK

4.1 INTRODUCTION

It is significant that Systems Thinking provides the overarching framework for the methodological convictions of this research. Systems Thinking is a philosophical approach, comprising of multiple strands. The judicious selection of these strands influences not only the approach, but the methodologies and methods used; in effect, it influences the way information is extracted, dealt with, and how improvements are made.

Therefore the structure of this chapter will require:

- A review of Systems Thinking, and fair justification for its adoption.

- The selection of particular strands of Systems Thinking. A review of those strands and related methodologies/methods, and an explanation of why they are used.

- An account of the theory justifying the complementary use of various methodologies and methods.

- A demonstration of how the above models/approaches/methodologies may be customised and/or applied to the research context.

4.2 SYSTEMS THINKING

The previous chapter portrays public colleges, particularly Majuba TVET College, as dynamic environments in transformation, with multiple stakeholders and embedded activities that may be construed as systems within systems. In recognising this complexity, I assume that the problems or issues therein may be viewed and addressed systemically. The complexity of the environment and the assumption that problematic situations within complex environments may be addressed systemically, are significant factors that decide the course of action for research. The forthcoming overview of Systems Theory will lend credence to the pursuit of a systems-based approach to tackling problematic situations. Hence, I draw upon concepts from the field of Systems Thinking.

Systems Thinking, in its basic form, relates to thinking about systems as wholes with interconnections that make up the whole rather than thinking of systems in terms of analysing their parts. Ackoff (2010: 24) posited three conditions that should exist for a set of parts to be called a system: each part can affect the performance or properties of the whole, no part can have an independent impact on the whole, and no subgroup can affect the whole independently.

4.2.1 REDUCTIONISM VERSUS SYSTEMS THINKING

Systems Thinking is a breakaway from the reductionist philosophy that accepts that a system is only well understood if it is broken up into its discrete components, and its functions understood by understanding the individual components in terms of cause and effect (Flood, 2010). On the contrary, proponents of Systems Thinking, such as Ackoff (1974), recognise that understanding the whole gives the greatest understanding of the system, and only when the system is viewed in its entirety, 'emergent' properties are perceived. Authors such as Ackoff (2010), Checkland (1999), Ulrich (1983), Flood (2010) and Jackson (1993) are leading advocates of Systems Thinking, their work being critical to the crafting of a methodological approach in this study.

4.2.2 SYSTEMS THINKING AND ETHICS

Reynolds and Williams (2012), in their work on Systems Thinking with regard to equity-focused evaluations, underscore the value of Systems Thinking in ethical decision making. They reflect on the stance of Churchman (1979), a forerunner of Systems Theory, who asserted that true ethical decisions are made only if one has considered the perspectives of those whom one may oppose. Any thinking that progressively takes into account the 'big picture' implies that a greater number of people affected by decisions, are increasingly considered. Churchman's philosophy inspired Werner Ulrich's (1993) model for systemic practice, Critical Systems Heuristics (CSH). This remains the first practical emancipatory tool that could be used by practitioners (professionals or not) to reflect on the broader impact of decision making. Jackson (2003) commented on the significance of Ulrich's model as a landmark work that serves to counter possible unfairness in society. Ulrich's CSH will be dealt with in greater detail in succeeding paragraphs.

4.2.3 THE CONCEPT: EMERGENCE

Emergent properties in Systems Theory refers to the typically unintended results yielded from the integration of parts or systems. Sterling (2003: 216) fittingly refers to this phenomenon as a *surprise*. This is in keeping with Flood's (2010) assessment of emergence being that property of a whole that arises when a phenomenon cannot be fully comprehended in terms of its constituent parts. The only significant property that accompanies emergence is 'interrelatedness', where the interaction of parts that gives rise to the whole precedes the emergence. While there is no empirical evidence to support how emergent properties materialise, the fact that they do is accepted within Systems Theory. A classic case of emergence is the integration of two parts of hydrogen with one part of oxygen, yielding the property of wetness. Emergence is also evident in team dynamics, where, for example, it is possible that teams consisting of underrated individual team players dubiously outperform teams comprising seasoned players. The interactions amongst the players contribute to enhancing the properties of the whole team. This phenomenon is popularly referred to as *synergy*, where the whole is considered greater than the sum of its parts.

4.2.4 REFLECTING BEYOND THE PARTS

Haines (2000: 41) defines Systems Thinking as thinking 'beyond the immediate task or element'. This reflects the need of the researcher or investigator to contemplate the reason for the existence of the task or element s/he may be investigating; why and how does it fit into the greater whole? Haines is of the view that such a question will lead the researcher back to the needs of the client (Haines, 2000: 42).

On applying the above to this study, I ask the question: 'to what extent does Majuba College have a fair understanding of its external environment?' I will also contemplate *why* does the college, and perhaps *why ought* the college, explore and understand its external environment? By also reframing the question in this way, the link between the question and the client surfaces.

Haines further explains that Systems Thinking also reinforces the converse: the researcher ought to ask how the greater whole causes a requirement for each element and its attributes. While the reductionist philosophy emphasises the need to investigate the inner working of a subsystem, Systems Thinking underscores the primary need to explore the interrelationships

between systems, to relate these relationships to the mission of the whole.

This work acknowledges Systems Thinking and relies on its unflagging argument that meaningful understanding arises from building up the whole picture, or sketching a scenario that encompasses more phenomena, than segregating them into parts.

4.2.5 SYSTEMIC AWARENESS

Ison (2008: 140) argues that people possess different degrees of systemic awareness, irrespective of whether they may have been exposed to any literature in Systems Thinking. This is characterised by a penchant for thinking in cycles – an intuitive grasp of the water cycle, for example - where the interlinking of issues may lead to crossing disciplines. It is also about thinking of the 'interconnectedness of things' or what is referred to as 'joined-up' thinking (Jackson, 2003; Reynolds, 2012; Allen, 2003).

In contrast, the reductionist favours the dissection of a whole (the whole may be within the physical world or a psychological construct), into its parts with a partiality to problem-solving by systematically studying the parts. Thinkers who hold the view that the understanding of parts leads to a greater understanding of the whole, lean towards a reductionist philosophy. Sawyer (2005: 59) acknowledges the long history of success of reductionism in the physical sciences, including economics and psychology, which justifies the inclination towards such thinking. However, Sawyer points out the impracticality of reductionist thinking in complex social settings when he quotes Blau who states that 'it is impossible to trace and dissect the interpersonal relations of many thousands and millions of people, and neither would it be meaningful if all were described.' (Blau, 1987, cited in Sawyer, 2005: 79)

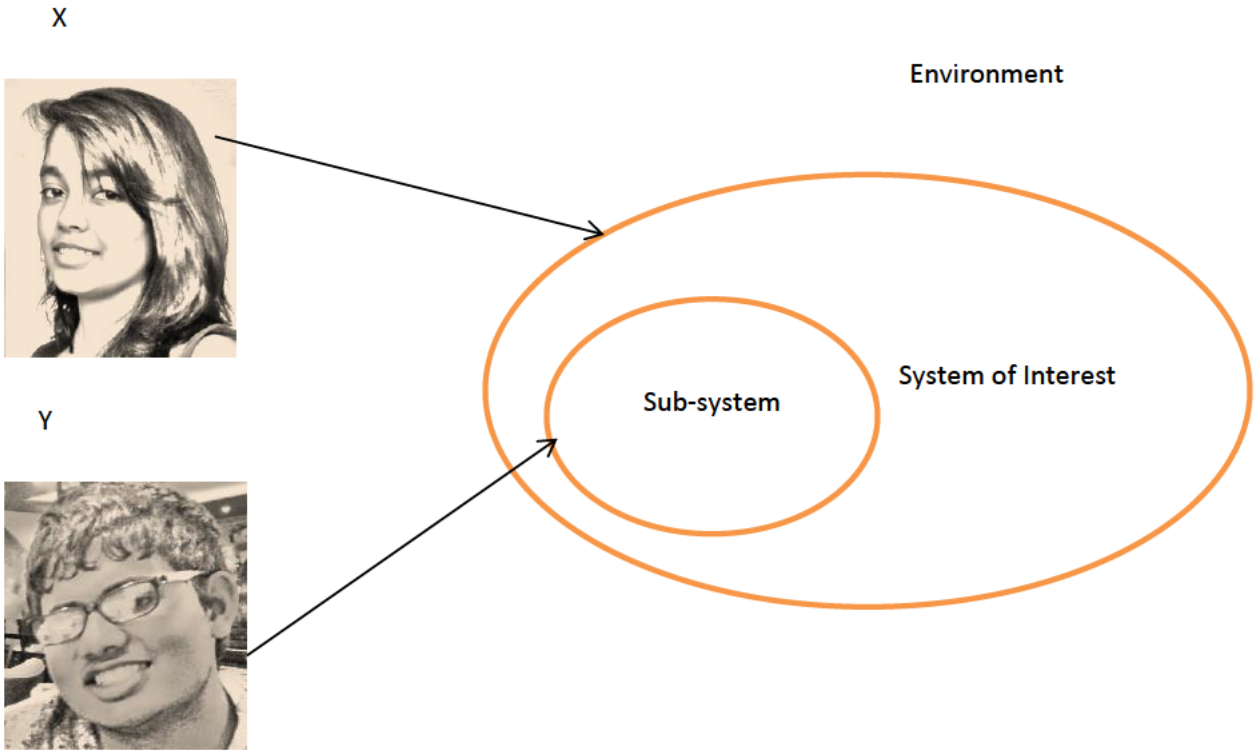
The systems practitioner, on the other hand, holds the view that the sum of the parts is not equal to the whole owing to the emergent properties that typify wholeness. Sawyer (2005: 28) reflects upon differences in which the systemically aware thinker perceives systemic practice. He notes that on the one hand, some systems practitioners do not preclude the need for analysing the parts, having the express intention of discovering its interaction with other parts that enhances the understanding of the whole. On the other hand, some systems practitioners, typically *holists*, favour the view that some complex systemic phenomena are such that no part can be understood except in its relation to the entire system. Hence the reasonable deduction is that the range between a systemic and reductionist orientation

constitutes a continuum on which each person occupies a position. Facilitators engaged in a systems tradition of action research naturally lean towards a mode of systemic thinking by their very choice of using the systemic approaches and methodologies.

4.2.6 BOUNDARY JUDGEMENTS

Ison (2008: 140) reinforces the seminal work of Ulrich (1995) in pointing out that a person's thinking about any situation is limited by a boundary judgement. A person formulates or distinguishes a system of interest, or a boundary, within an environment, either consciously or not.

Figure 4-1: The Continuum of Systems Thinking Reflected in Differences in Boundary Judgements



Note: the circumferences of the ellipses are 'boundaries'

(Source: adapted from Ison, 2008: 143).

Different persons, as X and Y in figure 4-1, owing to their different perspectives borne of varied backgrounds and intentions, will make different boundary judgements in the same situation. With reference to figure 4-1, a chief operating officer, Y, working in a tyre factory, might define

his boundary within the operational processes of his workplace, his key drivers being to keep costs down and improve profits. A CEO, X, at the same company might extend her boundaries to the surrounding communities and local public entities, to ensure that there is a healthy local perception of the organisation's environmental consciousness.

In the course of this work, I will draw upon the concept of boundary critique, as espoused by Ulrich (2000), as an active part of my investigation, couched within an emancipatory systems approach. I will do this by eliciting multiple stakeholder perspectives while also stimulating critical review from participants. However, the reader's attention at this stage is drawn to the view that I, as the researcher or systems practitioner who facilitates the research in this work, or a practitioner in any such work, should embrace a holistic orientation. I ought to be mindful of the need to find the 'bigger picture', and recognise the impact of boundary judgements as different stakeholders view the world through different lenses.

4.2.7 THE ADOPTION OF AN ACTIVE VOICE AS THE RESEARCH PRACTITIONER

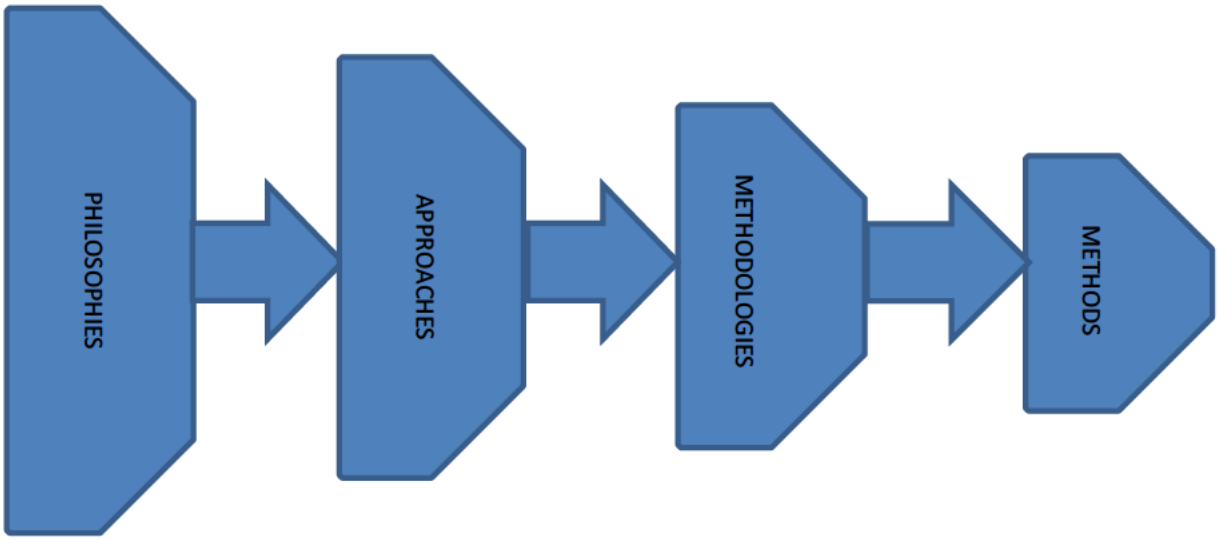
This work adopts an active voice, where I as research practitioner, acknowledge my role as a participating agent. Shelton (2015) considers the choice of an active or passive voice during academic writing as a contested space where he reviews the position of academic writing with regard to the use of the first person's voice. He reflects on leading journals that encourage or prefer the use of the active voice, arguing that it is clear, readable and understandable. Yannuar et al. (2014) promote the use of the active voice, to more accurately reflect perspectives, experiences and interests. The social embeddedness of this work, coupled with my practitioner-based work within systems theory, warrants the need to locate my presence visibly within the narrative.

4.2.8 SYSTEMS APPROACHES, METHODOLOGIES AND METHODS

Jackson (2003), in tracing the history of Systems Thinking, drew on the work of various leading systems researchers, viz. Ackoff, Checkland, Ulrich, Beer, etc. Systems Thinking, in the form of system methodologies, emerged during the mid-twentieth century; its first notable applications were in Operations Research, during the post-Second World War period.

Jackson (2003: 43) distinguishes between systems approaches, methodologies and methods, used in the processes of understanding and solving systems problems.

Figure 4-2: Distinguishing between Systems Approaches, Methodologies and Methods



(Source: Jackson, 2003: 43)

As depicted in figure 4-2, different approaches are drawn from differing philosophies. These philosophies find relevance in specific types of challenges, leading to approaches that find applicability through appropriate methodologies. In essence, the philosophy lends itself to a particular approach or set of approaches, and concomitant methodologies that may best resolve or improve a situation.

Jackson (2000: 43) expounds that the methodologies are further distilled into methods. McGregor and Murnane (2010) support the view that 'methodology' is considered a higher order term than 'method', as they reflect the logical principles that should govern the use of methods to ensure that the underlying philosophy is realised.

4.2.9 HARD AND SOFT SYSTEMS THINKING

Two disparate views of Systems Thinking are evident: *Hard* and *soft* systems thinking. Jackson, in a consolidation of the systems traditions in his book, 'Creative Holism', maintains that the systems approach to enhance *goal seeking* and *improving viability* is more suited to hard systems thinking traditions (Jackson, 2003: 81). The foundations of hard systems thinking are attributable to the engineering field. The advocates of this school of thought believe that these systems are physically in existence in the real world. The hard systems thinker is orientated to seeking goals and carries the assumption that the world contains systems that may be engineered (Ison, 2008: 147).

Jackson (2003: 22) differentiates the above from soft systems thinking which is typically accompanied by complex, socially embedded situations, and lends itself to a soft systems thinking tradition. The workable approach in this context is to *explore purposes* rather than seek goals. Jackson points out that goal seeking and finite problem-solving become less possible in complex, socially embedded situations. These situations are characterised by problems that Ackoff referred to as a system of problems or a *mess* (Ackoff, 1974). In the classical soft systems methodology (a notable soft systems approach that will be explored in greater detail), the soft systems thinker or practitioner, intellectually constructs a system of perceiving the problematic situation to understand it (Jackson, 2003: 185). Unlike the hard systems thinker, the soft systems thinker acknowledges that his/her problematic situation is not concretely found in the real world and cannot be engineered or completely solved. Hence his/her approach is to formulate a mental construct or a systems-based methodology to investigate the problematic situation.

The shortcomings of hard systems thinking are well documented in the work of subsequent soft systems proponents, taking after Checkland (1999; 2011) who recognised the impact of complex environments in pluralist settings, which warrant the perception of systems as human constructs. Hard systems thinkers see the possibility of gaining a complete understanding of their environment using hard system modelling methods, which are typically quantitative. The soft systems thinker acknowledges the limitations of gaining a full understanding of the environment, but recognises systemic thinking as a means of discovery, learning and improvement of the problematic situation within that environment (Checkland and Scholes, 1999). Given the complexity in which social systems are steeped, qualitative modelling approaches are preferred.

Table 4-1: Key Differences between Hard and Soft Systems

ATTRIBUTES	**HARD SYSTEMS**	**SOFT SYSTEMS**
Orientation	Systematic goal-seeking	Systemic Learning
Belief	Systems can be Engineered	Systems can be Explored
Belief	Models are of the World	Models are intellectual constructs
Belief	'Closure' is necessary	'Inquiry' is never ending
Belief	'Finding' *Solutions* to *problems*	'Finding' *accommodations* to *issues*
Suitability	Well-structured problems	Ill-structured Problems

(Extracted from Khirsty, 1995: 97)

4.3 QUALITATIVE MODELLING OF SOCIAL SYSTEMS USING A SYSTEMS APPROACH

In natural science, all phenomena are assumed to be real systems that may be modelled quantitatively, while in social settings, systems are human constructs, and may be viewed in multiple perspectives. Flood (2010: 270) makes a point of differentiating real systems that exist in the physical world, from those that may be human constructs in social settings, from a systems perspective. He refers to the systems approach to the real world setting as 'Systems Thinking' while referring to soft systems (those in social settings) as 'Systemic Thinking'. Soft systems protagonist, Peter Checkland, recognised the need to construct models to build up a picture of social phenomena, using the model to facilitate investigation and offer pathways of learning. Other proponents of soft systems, such as Ackoff offered models that reflect an approach that might include the visualisation of an end result in a prescribed process of intervention. Interestingly, another researcher, Ulrich, offers a model that constitutes the asking of a consistent set of all-encompassing questions to elicit responses that critiques boundaries. In all the above cases, it is important to note that each model does not exist in the real world, i.e. the approach is deemed to be constructivist. The models serve as a means of consistent investigation as well as provide an overarching purpose for systemic discovery. Unlike a hard systems model, that reflects that which clearly exists in the real world and would have definite outcomes related to efficiency and effectiveness, the soft systems models in social systems are used as research tools to describe or explicate social phenomena, or to assist in deciding a course of action (Checkland & Poulter, 2010: 199). Its purpose may not necessarily be to achieve efficiency or effectiveness; it may be used for various purposes such as exploratory or emancipatory. The value of such modelling is its ability to foster interpretation, hence it is distinctively qualitative. This locates the paradigm of this work to an interpretivist one. According to Midgley (2013: 147), the interpretivist leans towards the view that the more important aspect in an evaluation is what is achieved by a method in a given *context*, evaluated from the *perspectives* of stakeholders.

4.3.1 THE HUMAN FACTOR / SOCIAL SYSTEMS

The progress of this work will depend upon an appreciation of the role of human involvement, or social systems, and the limitations it imposes on research.

Midgley recognised the classic General Systems Theory of Von Bertalanffy (1969), quoted by Midgley (2006: 14-15), who popularised the homeostatic, open loop system. It obtained its

input from the environment, transformed it, and returned some output back to the environment. He demonstrated a system that adapted to its environment. To do so, the interdependence of its parts (subsystems included) led to different levels of organised complexity. Jackson (2003: 7) refers to Nobert Wiener who proffered a model of a closed loop system, which was self-producing or autopoietic, implying a model where the input is processed, and the output is sampled and fed back to be compared to the input. Deviations are corrected by negative feedback, and the system self-regulates. This formed the basis of cybernetic theory widely used in engineering fields, and extended to management sciences.

In both cases, these provide robust models for hard systems. Jackson (2003: 9) elaborates on the difficulty of extending the open and closed loop theories to systems containing human beings, owing to the human orientation being purposeful, implying the integration of free will and aspirations.

Jackson (2003) expounds the fact that purposes or intentions are products of human minds, and are driven by a mix of understanding and values that may differ from one human being to another, depending on their world views or *Weltanschauung* (a German word for 'world view'). A person's world view will impact on his definition of his boundaries (refer to figure 4-1), and will account, not only for the way in which the individual perceives the world, but also what he/she construes as the 'system under consideration', or the degree to which he/she views the bigger picture.

4. 3.2 SELECTION OF SYSTEMS APPROACHES AND METHODOLOGIES IN COMPLEX SETTINGS

There are several systems theories and related methodologies, generated over eighty years of research, each theory more suited to certain problem contexts than others. Michael Jackson, in his book 'Creative Holism', gave an overview of the evolution of systemic management, and reflected upon the varied philosophies and related methodologies. This culminated in him advocating a creative process of selecting amongst different approaches of systemic management and varied methodologies (Jackson, 2003). Jackson's work, through the work of various researchers such as Checkland, contextualised complex environments as those requiring systemic enquiry and a research approach that requires a constructivist orientation.

4.3.3 THE CASE FOR TVET COLLEGES BEING COMPLEX ENVIRONMENTS

At this point, it is useful to reflect upon chapter two, to remind oneself of the college as an environment with multiple stakeholders that may range from pluralist to coercive, comprising of multiple hierarchical tiers, interdepartmental units, an expanding network of committees, and arising and disbanding task teams. At the same time, the college has been driven by an infusion of transformative policies and customary practice in a dynamic environment.

In the case of public TVET colleges, including Majuba College, the political context and the pluralism evident in conflicting roles and philosophies of a wide range of stakeholders, and conflicting macro and micro planning, alone makes the environment very complex. It is clear that conflicting philosophies of different stakeholders result in perceptions that nuance objectives, resulting in little or poor use of a positivist[8] paradigm.

This assessment of the college sector is reinforced by the findings of Hardman (2013: 48) who expounded on the complexity of TVET colleges, modelling the college systemically. He refers to the increase in complexity arising from the dynamics of the environment, whereby the labour market is constantly in flux, and the level of complexity is increased by 'quick changes in legislation on macro level which result in delays in adaptation.' His work is of particular interest to this work, as he contextualised colleges as complex entities and hence advocates the need for analysing the organisation systemically using multi-methodologies. This work builds on Hardman's work, presenting the view that it would be reasonable to also adopt a systemic approach of enquiry when examining the college's relationship with its environment.

4.4 JACKSON'S SYSTEM OF SYSTEMS METHODOLOGY AS A GUIDE FOR SELECTING AN APPROACH AND METHODOLOGY

Jackson (2003) sets out to provide a basis for the creative and holistic use of different systems theories, methodologies and methods, by assisting the researcher in identifying the context of his/her research problem.

The first tool he proffers is referred to as the System of Systems Methodologies (SOSM) – refer to Table 4-2 below – which is a model refined from earlier models (Jackson & Keys, 1984: 437-486). Jackson's latest version (2003: 18) reflects a guide for the systems problem solver to

[8] The positivist paradigm reflects a world of certainty and logic, where facts and hypotheses are verifiable, via objective observations. Truths are unbiased and universal (Bowers, 2012).

understand the problem context so as to determine an appropriate methodology. In essence, it helps the problem solver think about the problematic situation or the mess in a simplified way (Reynolds & Holwell, 2010: 12). This guide reflects the degree to which an environment is simple to being complex, set against the degree to which the participants (stakeholders) are unitary, pluralist or coercive. Different approaches and methodologies are recommended for different combinations of complexity versus participant types.

Table 4-2: System of Systems Methodologies (SOSM)

	PARTICIPANTS		
	UNITARY	**PLURALIST**	**COERCIVE**
SIMPLE SYSTEM	1) SIMPLE-UNITARY	3) SIMPLE-PLURALIST	5) SIMPLE- COERCIVE
COMPLEX SYSTEM	2) COMPLEX-UNITARY	4) COMPLEX-PLURALIST	6) COMPLEX-COERCIVE

(Source: Jackson, 2003: 18)

The vertical axis depicts the type of system: simple to complex. A simple system is characterised as having few subsystems and few structured interactions. A complex system has many subsystems with numerous, less structured interactions. Simple systems remain fairly stable while complex systems evolve over time.

The horizontal axis reflects the orientation of the participants; they may be unitary, pluralist or coercive. A unitary orientation is characterised by the similarity in the thinking and objectives of the stakeholders; values, beliefs and interests are similar. A pluralist orientation, on the other hand, reflects stakeholders with varied values and beliefs but their basic interests are compatible, allowing for accommodations and compromise, albeit preceded by necessary debate and a degree of conflict. Coercive relationships reflect the extreme case, where the disagreement is so rife that compromise is not possible. Midgley (1997: 37) refers to this as the closing down of the debate - a breakdown in engagement - and 'dogmatic intransigence' by stakeholders that can only be addressed by campaigning and direct political action.

The SOSM will serve as a guide to the systems practitioner, to assist him/her in understanding

the problem context in terms of its complexity and stakeholder types, which will lead him/her to the next stage that follows, i.e. to establish the aim of the systems approach.

4.4.1 REFLECTING ON THE AIM OF THE SYSTEMS APPROACH

Jackson (2003) proffers the view that any approach to Systems Thinking should initially reflect on the aim of the approach. He states that the aims could be a systems approach for:

- Enhancing goal seeking and viability.

- Exploring purposes.

- Ensuring fairness.

- Promoting diversity.

Excellent performance hinges upon managers taking into account the above aims. These aims are not mutually exclusive. However, Jackson encourages the systems problem solver to reflect upon the dominant aim of the approach. Jackson proffers the use of SOSM as well as encourages the systems practitioner to view the environment and problematic situation through the lenses of paradigms and metaphors to gain sufficient insight into the problem context. This will assist him/her in choosing methodologies or drawing upon systems theories to address the problematic situation/s. This leads to Jackson's Total System Intervention approach to consolidate the various approaches and methodologies that may, thus far, have been dealt with separately.

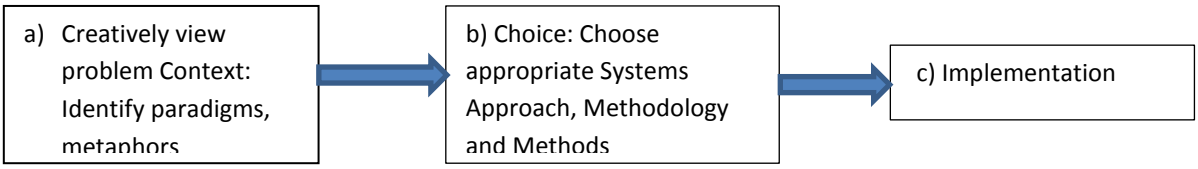
4.4.2 TOTAL SYSTEMS INTERVENTION (TSI)

The culmination of Jackson's work, 'Creative Holism', is a model referred to as Total Systems Intervention (Jackson, 2003: 287), which provides for the creative mixing of different methodologies and methods derived from various systems theories in order to intervene in a problematic situation.

Significantly, Critical Systems Thinking reflects Jackson's creative solution whereby he proffers a heuristic of identifying the appropriate paradigms and selecting multi-methodologies to assist the researcher in prudently selecting approaches to intervene to improve a situation or solve a problem.

The TSI is described as a meta-methodological approach that is characterised by three phases (Jackson, 2003: 287), as illustrated below.

Figure 4-3: The Three Phases of Total Systems Intervention (TSI)



(Source: Jackson, 2003: 287)

a) Creativity; creative ways are used to define the problem or list the concerns, specifically viewing the problems from different paradigms, using various metaphors.

b) Choice; the researcher will determine an intervention based on a choice of methodologies or a mixture thereof. He/she will consider the strengths and weaknesses of various methodologies, might use more than one but lean towards a dominant methodology.

c) Implementation; the researcher will use the chosen systems methodologies and related methods. He/she seeks to explore the use of multiple methodologies where relevant, and hence multiple methods.

4.4.3 THEORY RELATED TO METHODOLOGIES VERSUS APPLICATION OF METHODOLOGIES

Dongping (2010: 201) draws upon the work of Checkland and Holwell (1998) who juxtaposed the mode of research which focuses on *developing theories* in order to gain theoretical perfection against the mode that favours the *application of the theories* (in the form of methodologies) in the quest to solve practical problems. Dongping extends this line of thought, with a systems orientation. He posits the view that the *study* of systems methodologies may be divided into two strands: a theoretical study of Systems Thinking, drawing upon various disciplines, and on the other end of the spectrum, the *application* of systems methodologies in problem-solving to prioritise the needs of the client. In the first case, methodologies are derived from theories and a focus on the purity of the theories is maintained, while in the second case, real-world problems and complexities serve as a driving force to stimulate the continuous development of Systems Thinking as interventions to improve real life situations. He leans towards the second strand of thought, underscoring the usefulness of understanding

and dealing with systems methodologies and their application in the management field. Dongping (2010: 202) further acknowledges the use of Jackson's Creative Holism as that which is rooted in social theories which serve as theoretical supports to the inspiring use of systems methodologies.

4.4.4 PARADIGM INCOMMENSURABILITY

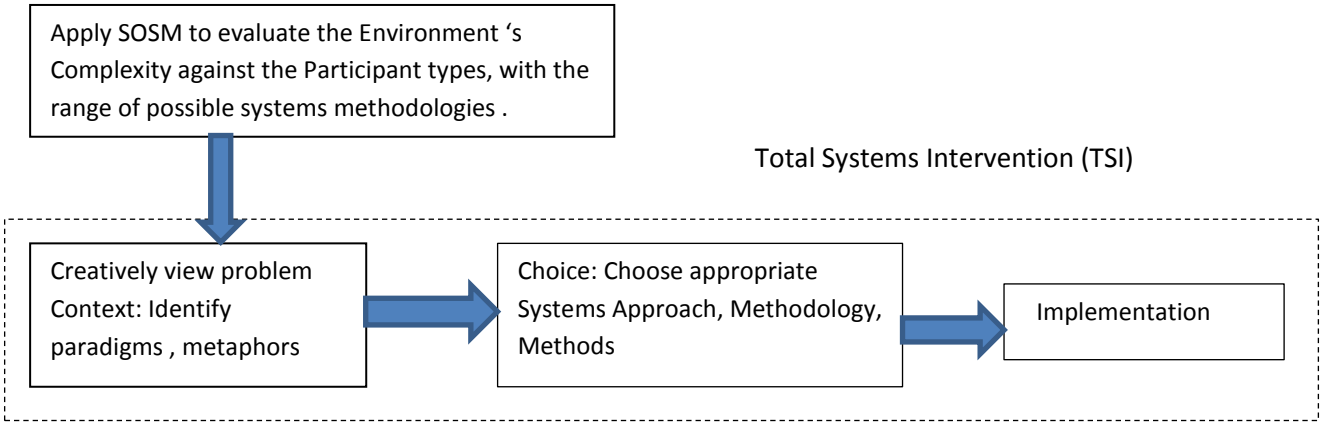
Paradigm incommensurability, conceptualised by T. Kuhn in 1970, is often couched within the purist domain, where there exists the view that paradigms are incompatible, by virtue of being based on philosophical assumptions that in themselves are incompatible. This implies the need for a clear delineation of problem-solving methodologies when working within systems with divergent paradigms.

Jackson (2003), supported by Dongping (2010: 204), expresses his acceptance of paradigm incommensurability and acknowledges that it cannot be resolved by a meta-theory. However, Dongping (2010) and Bowers (2012) reflect upon Jackson's use of *coherent pluralism* which acknowledges and protects paradigm diversity, by handling the relationships between divergent paradigms using a meta-methodology. In this way paradigms 'confront one another on the basis of reflective conversation' (Dongping, 2010: 204). Dongping underscores the principle that meta-methodology does not seek to be meta-paradigmatic but rather serves to mediate between paradigms, and use them critically to deal with problems or problematic situations. It is significant that the founder of the concept of paradigm incommensurability, Kuhn, revised his opening stance three decades after his initial findings, and clearly expressed that paradigms are not completely incommensurate (Kuhn, 2000: 35). He posited the view that there existed platforms of communication and rational comparison across paradigms. It is clear that Jackson's meta-methodological approach, wherein he defines the four paradigms, contextualises the environment, creatively uses metaphors, and prudently seeks the appropriate methodologies, is an intellectually considered, tentative and structured effort to create the platform to which Kuhn refers. This platform of communication and rational comparison serves to navigate past the constraints borne of the incommensurability of paradigms.

This work embraces Jackson's meta-methodology borne of Creative Holism, which serves to handle a diversity of theories and paradigms to deal with problems. In doing so, the research will jointly use the Total Systems Intervention (TSI) approach as a framework, as espoused by

Michael Jackson (2003), which is effective in complex settings, together with the SOSM. Figure 4-4 illustrates the proposed combined model. The complementary use of the two approaches will ensure that the environmental issues related to the level of complexity and orientation of stakeholders are considered, after which the sensible mixing of approaches, methodologies and methods is pursued to intervene in a problematic situation in a holistic way.

Figure 4-4: Integration of TSI and SOSM



(Source: Jackson, 2003: 287; Jackson, 2003: 18)

4.4.5 PIGEON-HOLING VERSUS METHODOLOGICAL PLURALISM

Reynolds & Holwell (2010: 12) alert practitioners to the problem of pigeon-holing of systems approaches using SOSM, and assuming that a problem situation can be easily slotted against one of the SOSM blocks (Table 4-2). The author asserts that system approaches have evolved and adapted as they have been progressively used, and encourages creatively mixing methodologies and methods from different paradigmatic sources, in keeping with Jackson's concept of 'Creative Holism'. Implicit in this approach is the use of the models to stimulate critical thinking rather than provide a formula for problem-solving. This is supported by Midgley (2010: 11) who refers to this practice as *methodological pluralism*. The evolution of the use of systems approaches across disciplines is evident in numerous journals, within different contexts, from Conservation Planning (Larson, 2011) to the Health sector (Cleland & Wyborn, 2010). While the initial concept of SOSM is important to understand, its value is enhanced when used with total systems intervention (TSI). This methodology provides for the drawing in of different methods to creatively rather than clinically explore problematic

situations.

4.4.6 A FRAMEWORK OF JACKSON'S KEY CONCEPTS AND TOOLS TO ASSIST IN INTERVENTIONS IN PROBLEMATIC SITUATIONS

In applying the TSI, the systems practitioner would have to be creative, reflective and be well acquainted with the concepts of paradigms, metaphors and systemic methodologies, as applied to systems intervention. He/she would have to creatively view the problem which implies the judicious selection of metaphors, paradigms, and ultimately the most appropriate methodologies, and a mixture of appropriate methods.

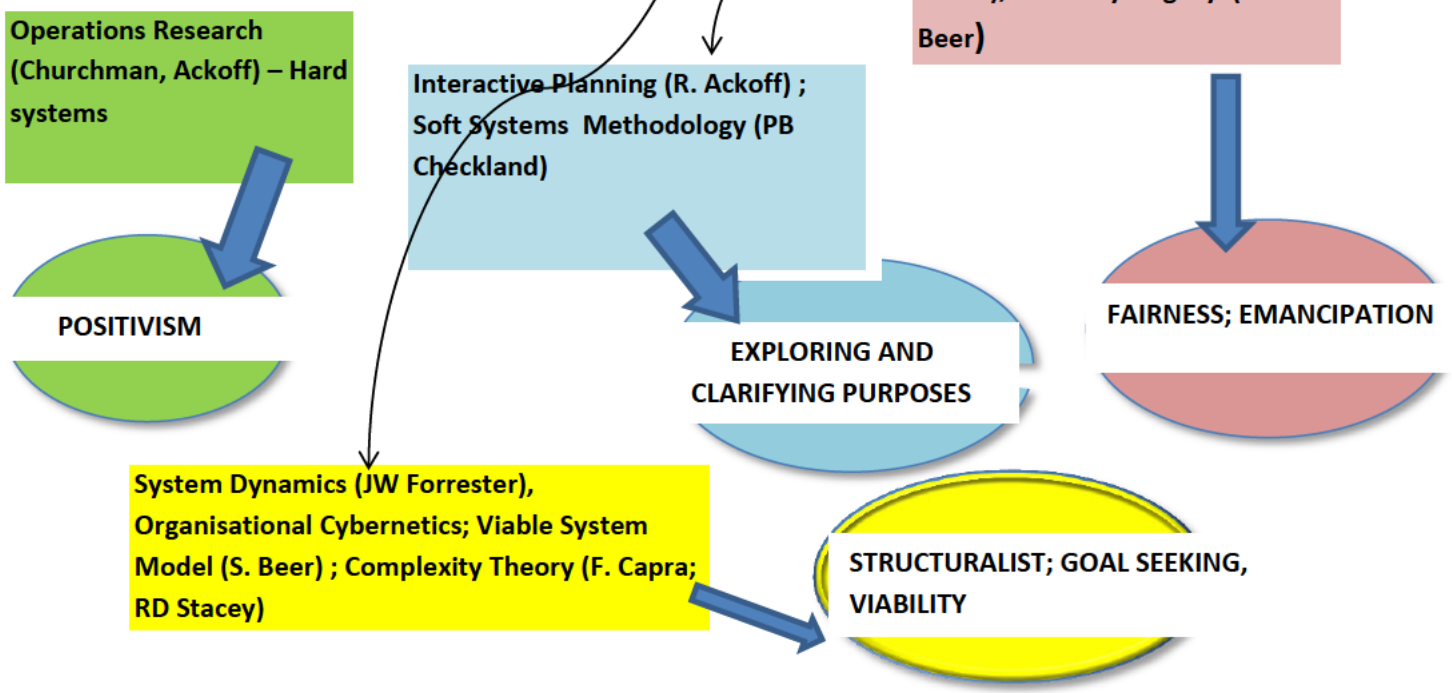
In Creative Holism, Jackson traverses through the history of systems approaches, and links each of the approaches to appropriate methodologies or systems theories that have proved, over the period of their use, to be the most appropriate for a specific approach. Jackson elaborates the importance of the use of paradigms and metaphors in assisting the systems practitioner in viewing and interpreting the problematic situation before embarking on an intervention. The perspective in which a problematic situation is viewed determines the type of intervention. Within a complex setting, the problem definition not only becomes hazy, but takes on multiple perspectives by different observers, where varied boundary judgements (Ulrich & Reynolds, 2010) lead to problems being viewed through different lenses.

Figure 4-5 below revisits the SOSM, which guides in locating the problem-context in terms of the types of participants against an evaluation of whether the environment is complex or simple. With the further assistance of TSI, where the problematic situation is creatively viewed using paradigms and metaphors, the best fit systems approaches, methodologies and methods may emerge, be chosen and implemented, as depicted in figure 4-4. The lower part of the diagram, beneath the SOSM table, depicts the possible interventions that may result owing to Total Systems Intervention (TSI). In the context of this work, Majuba College participants have been identified to be pluralist to coercive, and the environment has been deemed complex. Hence, the strand of Soft Systems Methodology (SSM), which is appropriate for exploring and clarifying purposes, has been chosen to explore 'to what extent does the college have a reasonable understanding its environment?' I have also been guided by the model towards the use of a complementary approach: Critical Systems Heuristics (CSH). Its recognition in Systems Theory as an emancipatory approach that worked well in promoting fairness, eliciting multiple stakeholder perspectives and bringing into focus the boundaries for critique, would assist me

in obtaining insights that would ordinarily not have been forthcoming. SSM and CSH have been considered to be appropriate for this investigation.

Figure 4-5: Illustrative Depiction of Jackson's Approach of Relating SOSM to Various Systems Approaches and Models

	PARTICIPANTS			
SYSTEMS		UNITARY	PLURALIST	COERCIVE
	SIMPLE	SIMPLE - UNITARY	SIMPLE- PLURALIST	SIMPLE - COERCIVE
	COMPLEX	COMPLEX - UNITARY	COMPLEX - PLURALIST	POST MODERN



(Source: adapted from Jackson, 2003).

This work acknowledges the multiplicity of perspectives in defining problematic situations within messes, and therefore tabulates the range of paradigms and metaphors against various approaches and methodologies, as discussed by Jackson. It is clear that Jackson views these associations as useful thought stimuli to, as far as possible, guide the systems practitioner to a considered evaluation of the problem context. The systems practitioner would be well advised to consider this arrangement below (Table 4-3) a guide as interpreted from Jackson's Creative Holism, rather than view it as a rigid set of relationships.

Table 4-3: Guide Relating Systems Approaches, Paradigms, Metaphors, Evaluation of The Environment And Methodologies/ Systems Theories

Systems Approach For	Typical paradigms	Typical Metaphors	Suggested Environment (SOSM based)	Examples of Methodologies/ System Theories
A] Enhancing Goal seeking and viability	Functionalist	Machines	Simple System, Unitary Participants	Hard Systems,
	Structuralist	Flux, Transformation, Brains	Complex System, Unitary Participants	Systems Dynamics, Organisational Cybernetics, Viable System Model, Complexity Theory
B] Exploring Purposes	Interpretive	Culture, Political Systems	Simple system, Pluralist Participants	Strategic Assumption, Surfacing and Testing
			Complex System, Pluralist Participants	Interactive Planning, Soft Systems Methodology (SSM)
C] Ensuring Fairness	Emancipatory	Psychic Prisons, Instruments of Domination	Simple System, Coercive Participants	Critical Systems Heuristics, Team Syntegrity
D] Promoting Diversity	Post- Modern	Carnivals	Complex System, Coercive Participants	-Post Modern -(Story-Telling/Narrative Approach)*

(Source: Jackson, 2003)

Story-telling or the Narrative Approach is not cited as a methodology within the Post –Modern paradigm by Jackson; however, Mitchell & Egudo (2003) justifiably locate it within this paradigm. Its inclusion in the table is also supported by the fact that it is used as a complementary methodology or approach in this study.

The systems practitioner is encouraged to critically review each strand of association that would lead him/her to an intervention, by using this tabulated summary of associations. It relates systems approaches, to paradigms and metaphors, to the evaluation of the environment (derived from SOSM), and systems methodologies. While figure 4-5 (refer to the previous block diagram) is proposed as the overarching framework, the table below (Table 4-3) is proposed as a guiding tool. It has fields that remind the systems practitioner to practically consider the various facets of Jackson's Creative Holism, with the intention of stimulating him/her to critically view the problem context. This possibility is enhanced by the practitioner having immediate access to a trail of Jackson's thoughts regarding some of the salient aspects of Creative Holism through the table. It is hoped that it would allow him/her to critically compare and choose appropriate methodologies and methods, or combinations thereof, to intervene without misinterpreting the table as a thoughtless pigeon-holing exercise.

A closer examination of how I, as systems practitioner, have used the guide (Table 4-3) to assist me in approaching this research, follows.

In this research, I sought to explore the extent to which Majuba College understands its local environment. In attempting to apply Creative Holism, with the assistance of Table 4-3 and the adapted TSI model (figure 4-4) to derive the approaches and methodologies I would adopt, I was compelled to reflect on Majuba College. I reflected upon its role players, history, location within the public sector, and the impact of transformation, as dealt with in chapter two. I arrived at the following:

a) The college is a complex environment, reinforcing the findings of Hardman (2013). It has a multiplicity of goals with many socio-political objectives. Its pluralist base and socially embedded targets, such as equity and redress, as articulated in the FET Act, presents the need to focus on *exploring purposes*. Hence the need to consider a qualitative, interpretative approach.

b) Chapter two underscored the impact of transformation on the TVET sector, and related this impact to Majuba College, from its identity and purpose to its positioning and growth. Chapter two had articulated the competing objectives and expectations by different stakeholders, which are borne of competing world views. Chapter two, as well as the qualitative fieldwork to follow, will reveal Majuba College as an organisation where the world views of internal

stakeholders range from those that perceive themselves as victims of uncontrollable change within a detached, pernickety bureaucracy, to others who align with an emancipatory world view, seeking social justice and opportunities in the midst of transformation. Hardman draws upon the study of Complex Adaptive Systems from Stacey (Stacey, 2007; 2010 quoted by Hardman, 2013: 60) in describing the TVET environment, or its *fitness landscape*. Hardman elicits the metaphor of a *fitness landscape* that is in constant motion, or more appropriately, he adapts the metaphor to *'a seascape*' (Hardman, 2013: 60). While this metaphor reflects the dynamism and unpredictability of the environment, it must be added that the former group mentioned earlier, perceive their world as onlookers, huddled on an island in the midst of this seascape, concerned about their spaces, or if you prefer, *adrift and insecure* as elaborated by Hardman.

c) Ultimately, the question, 'to what extent does Majuba College have a fair understanding of its environment?' will not be dealt with by a series of concise answers aligned to an environmental scanning policy. The fact that such a policy does not exist, alone leads to the reasonable possibility of different parts of the organisation perceiving the task of understanding the environment differently, or not concerned about understanding the environment at all. Given the pluralistic participants in a complex environment, I chose to use principles of Soft Systems Methodology (SSM) to derive a holistic view of the college's internal and external environment and its dynamics, through the medium of *rich pictures* and discursive dialogue among key stakeholders. SSM, as an effective systems methodology that has been of benefit to this work, will be further dealt with later in this chapter.

d) Reflecting on Jackson's TSI, in conjunction with Table 4-3, I grew wary of the metaphors of bureaucracies creating prison–like barriers, of those stranded victims in a seascape while others find slipstreams. This led me back to the fact that almost every piece of legislation catapulting rampant transformation, as outlined in chapter two, contained emancipatory undertones, such as the FET Act, SDA and SDLA. The thrust of attention in these prescripts is on previously disadvantages groups, defined as Black, those with disabilities, and women. The exclusion of these 'designated' groups during Apartheid years, as described in the Employment Equity Act, and the concomitant economic disparities, has, in the new order, been replaced by a slow and sustained process of widening participation. This brought to the fore the need to question who are the potential beneficiaries of the college system, who is excluded or

neglected? In a unitary system, it might be possible to consciously avoid exclusion, as stakeholders hold common views. However, the college setting has participants that range from pluralist to coercive, implying that decision making might hinge upon multiple world views, and boundary judgements. In such a case, attaining the emancipatory vision is more challenging.

This led me to explore a system of investigation that *seeks fairness*. I therefore chose to include an emancipatory approach in my methodologies, preferably Critical Systems Heuristics (CSH). This approach questions boundary judgements, allowing its participants to critically introspect their reasoning. It might not fit perfectly with Jackson's model that suggests certain preferred conditions or criteria for its use. However, it seemed reasonable to not only draw upon multiple perspectives, as SSM assisted in doing, but to critique the boundaries of the systems. The CSH would be dealt with in the succeeding paragraphs.

The demonstration of how I applied the guiding instruments, viz. Figure 4-5 and Table 4-3, reinforce their use as guiding tools rather than procedure templates, as the latter might ironically confine the exercise to reductionism.

4.5 SOFT SYSTEMS METHODOLOGY (SSM)

I had earlier selected Soft Systems Methodology (SSM), within the context of Total Systems Intervention (TSI) with the assistance of the tabular depiction of Creative Holism (Table 4-3) as an exploratory approach to address the research question: 'to what extent does Majuba College have a fair understanding of its local environment?'

Checkland and Poulter (2010: 196), retrace Peter Checkland's development of Soft Systems Methodology (SSM) as an alternative to the hypotheses testing type of research in the positivist paradigm. SSM was designed for 'social' research, where the researcher or facilitator conducts the research at the level of the situation, group or organisation, viz. *action research*, rather than being a distant, non-interfering observer. The researcher takes part in the activities using an intellectual framework, within which he/she makes sense of the experience gained; he/she then uses that experience as the research object. While the experiences may differ from case to case, the framework is consistent, allowing for the outcomes of the research to

be articulated in terms of the framework, and hence be *recoverable*. Furthermore, soft systems approaches such as SSM differentiates itself from hard systems based models, in that the researcher models a system of exploring and learning from a situation (he/she devises a *system of thinking* about the situation). This opposed to perceiving actual systems within the world. In the former case, as in SSM, the researcher accepts and anticipates that the situation he/she explores may comprise of various world views, while the hard systems based researcher is wont to ignore world views.

SSM presents a reasonable systemic option to assist in this exploration, through the lenses of its involved internal stakeholders. SSM is favoured in a pluralist setting, within a complex environment, as gleaned from the SOSM. Its founder, Checkland, tracked its thirty-year evolution following 'hundreds of applied cases', and declared it a mature methodology, with widespread uses. SSM was considered useful wherever learning can be structured and organised to address or explore problematic situations (Checkland & Poulter, 2010: 193).

Soft Systems Methodology has strength in surfacing and engaging with varied perspectives in messy situations. Its action-oriented principles have been useful in exploring the current practices of the college's engagement with the environment, with a view of seeking an understanding of the varied practices, motives and perspectives of internal college stakeholders in their own understanding and engagement with their environment.

4.5.1 OVERVIEW OF THE PRACTICAL USAGE OF SSM

Figure 4-6 below is a graphical translation of the essential elements of SSM as described by Checkland and Poulter, reflecting the understanding of SSM as a process of enquiry through social learning. Note the following key features of the sketch:

- Number 1 indicates a real life problematic situation, as gleaned from the everyday flux of life, implying that the problematic situation may be subject to changes as organisational environments (internal and/or external) change from time to time. The problematic situation occurs in a pluralistic setting, characterised by the involvement of various world views, making the situation messy.

- Number 2 refers to the process of finding out about the problematic situation in 1, by:
    - Determining the status of client/s, practitioner/s, and owner/s, bearing in mind that role-players may be involved in multiple roles.

- Determining the culture by examining the roles, norms and values.
- Determining the political and power influences.
- Using non-linear systemic means of enquiry, esp. *Rich Pictures* and/or Storytelling approaches, to represent a multitude of relationships.

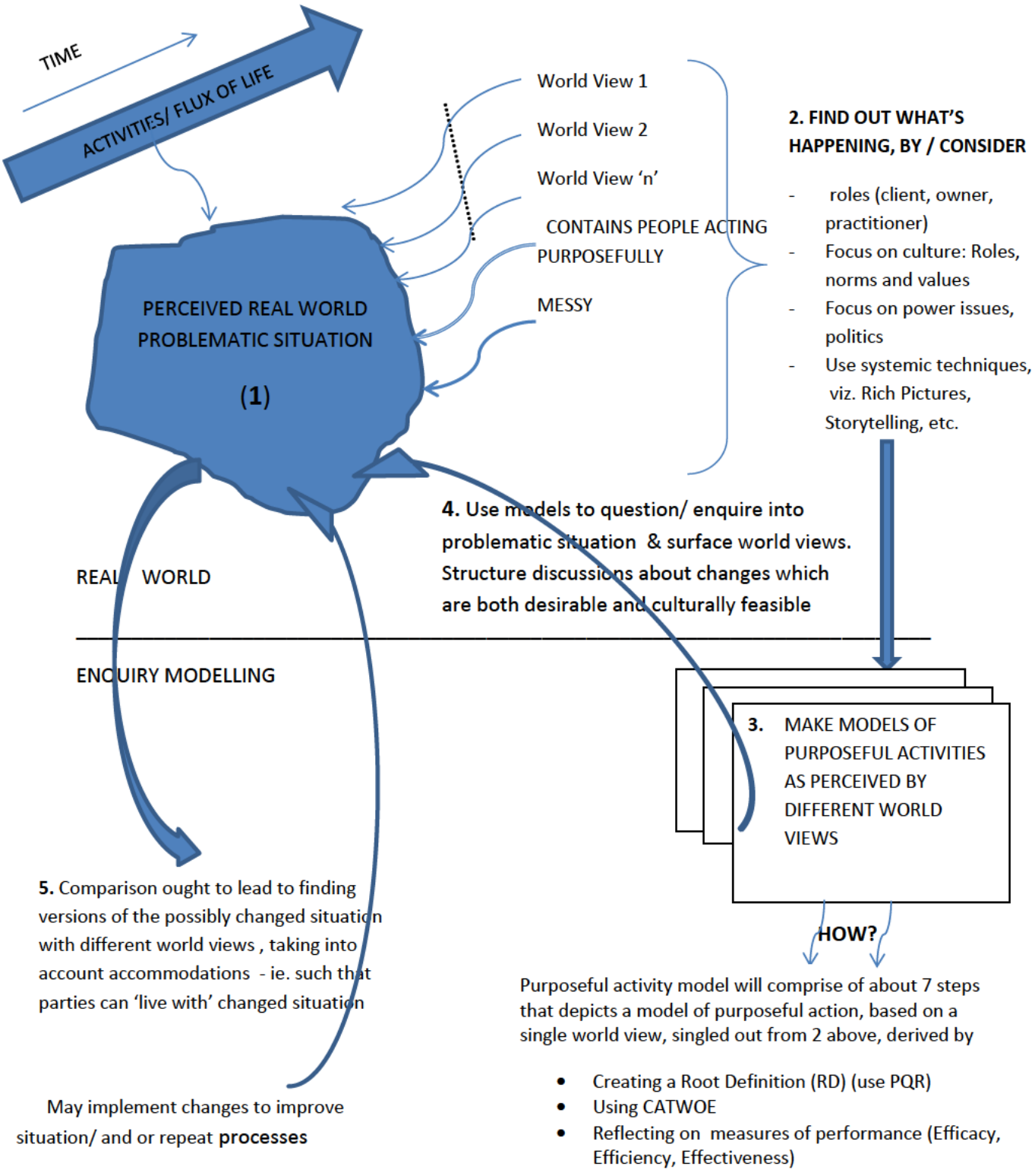
- Number 3 refers to the making of Purposeful Activity Models by the practitioner, each model representing a perspective of a single world view. Such a model would comprise a series of steps (about 7), leading to a purposeful action. To derive the model, the facilitator will:
  - Create a root definition (RD) that answers the PQR formula, i.e. Do P, by R, to help achieve Q.
  - Use CATWOE, i.e. determine the *Customers* who are affected or served or omitted, determine who are the *Actors* who act or serve, what is the *Transformation* process, what are the pertinent *World View/s*, who are the *Owners* (those who have the power to stop the key processes), and what is the *Environmental* impact. It is recommended that T and W be addressed first.
  - Determine the measures of performance by which the operation of the notional system would be judged, i.e. with respect to Efficacy, Efficiency and Effectiveness.
  - Consider whether the Purposeful Activity model represents a primary task or an Issue-based-task; the value of including an Issue-based task ought to be borne in mind, as it cuts across organisational boundaries.
  - Each model will be a complete adaptive system, in keeping with the need to ensure systemicity. Hence each model will have a monitoring component.

- Number 4 reflects the use of the models of purposeful activities to question or enquire into the problematic situation (1). In essence, a theoretical model is compared to the real world problematic situation. Discussions may be structured about changes which might be *arguably desirable* and *culturally feasible*.

- Number 5 reflects the creative discovery of versions of the changed situation that parties may be able to live with; this process seeks accommodation.

- Changes may be implemented to improve the situation and/or the process may be repeated.

Figure 4-6: A Summary of Checkland and Poulter's Account of SSM Depicting the Use Of SSM, from Perceiving The Problematic Situation, to Taking Action to Improve



(Source: Checkland and Poulter, 2010: 191-242)

4.5.2 NON-LINEARITY AND THE EMPHASIS ON METHODOLOGIES

Checkland and Poulter (2010), emphasise the following:

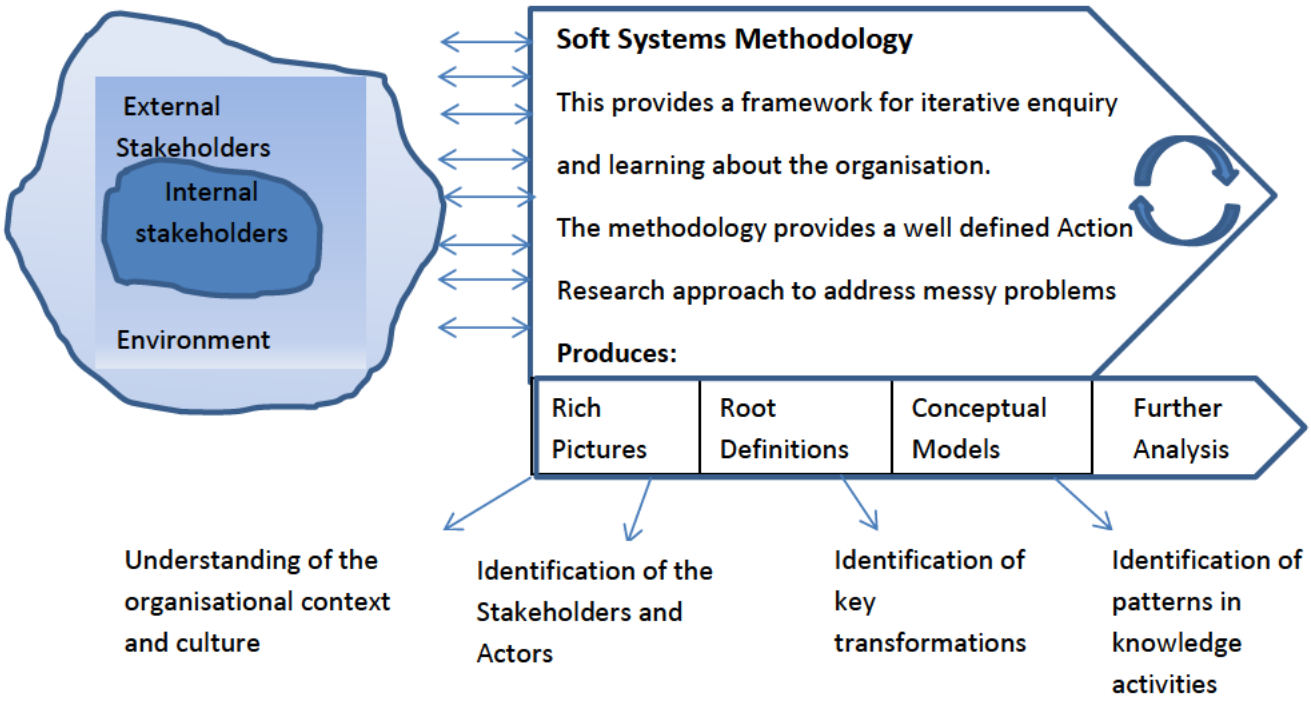
- The activities in figure 4-6 do not traverse a linear path. Practically, some activities (1 to 5) may be performed concurrently, or at the discretion of the practitioner. Factors such as the unique situation and the practitioner's experiences may determine the order of deliberations or actions.
- The methodologies, which reflect the principles in which the SSM is bound, ought to be tailored to the specific situation. The researcher ought to be oriented to making sense of the complex situation rather than be rigidly oriented to the methodology.

4.5.3 THE PRACTICE OF SSM ACROSS DISCIPLINES

Checkland claimed to have applied the SSM in more than 100 cases in the field, and across disciplines. This versatility is evident in the work of Heyrani et al. (2012) where SSM was used in clinical governance within the health sector, while its principles have been applied in conjunction with other systems approaches, particularly Critical Systems Heuristics (CSH). This is well demonstrated in coral reef conservation in the Philippines (Cleland & Wyborn, 2010). Common to most of these research activities, is the basic SSM model of designing a system of inquiry that a) perceives the initial situation, b) provides some purposeful activities relevant to the perceived situation, c) uses the model to inquire and seek accommodations and d) defines culturally feasible and systematically desirable changes for improvement.

Walker, Finegan and Maqsood (2003) who adopted SSM in the construction industry, provide a graphical depiction of the SSM approach in figure 4-7 below. It provides a general model that may succinctly convey the approach that may be considered in this work. Their use of a soft systems approach in an industry typified by hard systems, is significant. They perceived group learning, the harnessing of socially constructed, tacit group knowledge and experience, group decision and joint ownership of problem-solving, as the key benefits (Walker, Finegan & Maqsood, 2003: 18).

Figure 4-7: Applying SSM to Knowledge Management



(Source: Walker, Finegan & Maqsood, 2003)

4.6 CRITICAL SYSTEMS HEURISTICS (CSH)

As discussed earlier, the use of the tabular representation of Jackson's 'Creative Holism' in Table 4-3, in conjunction with the backdrop of chapter two, prompted the need to reflect upon *fairness* ((C) of Table 4-3). This led to the selection of an emancipatory paradigm, and related methodologies. Hence I am led to the work of systems theorists who focussed on the theory of 'boundary critique'. Midgley et al. (1998), refers to this as the decisions made by a researcher in determining the range of stakeholder perceptions and views. Churchman (1979) observes this as a 'boundary judgement', in essence, the assumed distinction of what belongs to the system in question as opposed to that which is outside the system, i.e. the environment. The use of boundary judgements may allow researchers to reflect, adapt and defend their choice of system definitions. Churchman's (1979) assertion that the role of making the boundary judgements should lie with the researcher, who would 'sweep in' as much of the environment as possible, was challenged by Werner Ulrich. Ulrich (1983) was the leading systems practitioner to advocate a truly emancipatory approach to systems design. Emancipatory, in

this sense, is a reference to fairness rather than within the realm of Marxist narrative. Midgley

(2006b: 21) points out that Churchman perceived boundary judgements as judgements of value, or ethicality, that warranted the widening of boundaries. In essence, this means that the more inclusive the system, the fairer it is.

However, Ulrich broke away from the prevailing view that those involved in planning the system held the right to determine the boundary judgement, as well as he recognised the impracticality of a system being limitlessly inclusive. He posited the view that the boundary judgements for a system may be challenged by engaging a wider range of stakeholders (involved and affected) that would include those affected by planning, and testing the rationality of including or excluding boundaries through dialogue. Ulrich developed a systematic and critical heuristic approach, through which he exposed a wide range of stakeholders to certain calculated questions; he referred to this approach as Critical Systems Heuristics (CSH). The 'heuristic' itself refers to the engagement of stakeholders with a list of carefully constructed questions by Ulrich, twelve in this case, which is in the mode of 'what is' and 'what ought to be'.

With reference to Table 4-4, which is a slight adaptation of Ulrich's CSH questions (2000) by Reynolds (2006), the twelve questions are broken into four groups. The first (question 1, 2 and 3) asks for the value basis of the design, the second seeks its basis in power (question 4, 5 and 6), the third for its expertise (question 7, 8 and 9), and the fourth for its legitimation (question 10, 11 and 12). The 'what is' questions are especially pertinent to the planners or those with the expertise who are involved in the system. They question the actual or potential whole system implication of a design. The 'what ought to be' questions are designed to extract a vision of the 'ideal' and is especially significant to those who are affected by, or witnesses of the system. The impact of these questions lies in their ability to allow ordinary citizens, without any special expertise, to be part of a process that can lead to the questioning of the boundary judgements, and hence the normative validity of the systems design.

Table 4-4: Critical Systems Heuristics (CSH) Questions for Evaluation

Sources of motivation	
1	**Beneficiary** ("client")**:** who ought to be /is the client or beneficiary of the service or system (S) to be evaluated?
2	**Purpose:** what ought to be /is the purpose of S?
3	**Measure of success:** what ought to be/is S's measure of success (or improvement)?
Sources of control	
4	**Decision maker:** who ought to be/is the decision maker (in command of resources necessary to enable S)?
5	**Resources:** what components of S ought to be /are controlled by the decision maker (eg financial, physical, natural, human resources as well as social capital)?
6	**Decision environment:** what conditions ought to be /are part of S's environment, ie not controlled by S's decision maker and therefore acting as possible constraints?
Sources of expertise	
7	**Expert (or designer):** who ought to be/is involved as providing expert support for S, ie providing some assurance or "guarantee" that the system can succeed?
8	**Expertise (guarantor attributes):** what kind of formal and informal expertise or relevant knowledge ought to be/is part of the design of S and what ought to be /is providing "competence" or guarantor attributes of success for S (eg relevant technical or disciplinary support, consensus amongst professional experts, experience and intuition of those involved, stakeholder participation, political support…)?
9	**False Guarantee:** What ought to be/ are false guarantor attributes of success; that is, possibly misleading forms of expertise that might generate a bogus or artificial sense of guarantee or validity (eg (i) superficial multidisciplinary input, and/or (ii) sole fixation on scientific data, statistics, or processes of deliberation and "consensual" populist viewpoints, and/or (iii) tokenistic, superficial claims to ideas of "empowerment", "social responsibility" etc...)
Sources of legitimacy	
10	**Witnesses:** who ought to be /is representing the interests of those affected by but not involved with S, including those stakeholders who cannot speak for themselves (eg the handicapped, future generations and non-human nature)?
11	**Emancipation:** to what degree and in what way ought/are the interests of the affected free from the effects of S?
12	**Worldview:** what ought to be/is the worldview underlying the creation or maintenance of S? ie what visions or underlying meanings of "improvement" ought to be /are considered, and how ought they be /how are they reconciled?

(Source: Reynolds, 2006: 103)

4.6.1 THE IMPACT OF THE UNINVOLVED AND AFFECTED

It is clear that planners base their boundaries on their conception of reality, which may differ from those of the uninvolved and the affected. The uninvolved and the affected refer to those who are not involved in the planning processes, but may be affected by such planning. The impact thereof could even lead to the failure of implementation due to resistance by those affected (Ulrich, 1983). This view is supported by Midgley (2006a) who perceived that stakeholders and issues could both be marginalised, should boundary critique not be exercised, and that this marginalisation can become institutionalised. For this research, the use of Ulrich's Critical Systems Heuristics is important in challenging the normative content of the system's design, and reflecting a truer picture of, in this case, the way in which the local college environment is understood and engaged. Perhaps more poignantly, referenced against how they ought to be understood and engaged.

4.7 STORYTELLING (THE NARRATIVE APPROACH) AS A COMPLEMENTARY APPROACH TO SUPPORT SSM

Mitchell & Egudo (2003) explain *narrative* as a story-telling methodology within social sciences, where the story is the object of study, and the attention is on how individuals or groups interpret the events and actions. They recognise the impact of the narrative approach in its ability to convey tacit knowledge, enable sense-making, and build identities. Similarly, Moen (2006: 2) places the narrative approach within the framework of sociocultural theory where narrative research is a recognised branch within the qualitative or interpretive research tradition. He refers to Creswell (1998) and Heikkinen (2002) in advancing the view that the narrative approach may not merely be construed as a method but a frame of reference in research, which may be used for a case study, a biographical study, a phenomenological study or an ethnographic study. He considers a frame of reference important as it is conducive to reflective inquiry.

Moen's (2006) work deals with the relationship between teaching and learning, and the narrative approach. Moen concludes by presenting a 'knowledge of practice' approach to teaching practice, where narratives lend a field-based experience to learning, allowing the interpretation of knowledge to be dynamic and exploratory. According to Moen, the interaction between theory and empirical information is an intersection where understanding

and insights are achieved.

4.7.1 STORYTELLING OR THE NARRATIVE APPROACH IN SUPPORTING SSM AND CSH

Of significance to this work is Moen's conclusion (2006: 9) that narratives capture the 'complexity and multivoicedness' of teaching, 'retaining all the characteristics of the whole'. He reiterates that 'when appearing as a whole rather than elements, narratives are not abstract, remote or inaccessible.' He points out that narratives are familiar and relevant to the listener, bringing practice up close, which stimulates dialogue, reflection, and provokes thought. He concludes that narratives may be construed as 'cultural scaffolds or thinking tools'.

Moen's conclusion is unmistakably resonant with Systems Thinking, where the need to access the whole is fundamental. It may be argued that the narrative approach is a useful 'thinking tool' for SSM, as it can serve as a holistic means of assisting the development of *rich pictures* to gain a total view of the environment in which the problematic situation occurs. Moreover, the narrative approach and SSM share a philosophy that is underpinned by discovery and improvement through continuous learning.

The penchant of the narrative approach for eliciting reflective enquiry and tacit learning, will reasonably stimulate critical thinking, and hence assist the process of inquiry during the use of Critical Systems Heuristics (CSH) in this study. It must be borne in mind that CSH thrives on the configuration of its boundary questions to stimulate respondents' broader thinking and trigger their insights by the juxtaposition of the 'is' and 'ought' questions. In keeping with Ison's (2008: 140) findings that each person possesses a level of systemic awareness that impacts on his/her thinking, it may be argued that the narrative approach accentuates the level of systemic awareness of respondents of the CSH based inquiry. It contributes to the success of such inquiry. The narrative approach's ability to stimulate critical thinking and reflective enquiry has the potential of enhancing the critiquing of boundaries, as demanded in CSH.

Mitchell & Egudo (2003) locate the narrative approach in the post-modernist paradigm. Jackson (2003: 38) explains that post-modernism diverges from the positivist, rational paradigm, as it perceives reality as that which is based on multiple perspectives, and knowledge as value-laden. Post-modernism reinforces the social nature of creating knowledge. Jackson (2003: 253) emphasises the affinity of post modernism to make room for suppressed

voices and engage people's emotions, and this, to some extent, echoes the objective of *fairness* contained in CSH.

4.8 THE IMPLICATIONS OF USING SSM AND CSH TO ADDRESS THE RESEARCH QUESTION

The conceptual framework depicting the research design in figure 1-1 in chapter one, reflects the need to select systemic approaches to engage with stakeholders to learn:

- about Majuba College's current approach in understanding its local environment and how it uses this understanding.
- how the college ought to understand its local environment, and how it ought to use this understanding.

The above are divided into internal and external stakeholders. The internal stakeholders are further divided into those who are in functional, managerial and governance roles, and those on campuses, involved in the primary function of delivering teaching and learning services. As indicated earlier, appropriate methodologies or approaches are used to engage relevant stakeholders, with the assistance of Creative Holism.

The strategy to address the internal enquiry was to engage with internal stakeholders who were the closest to the external environment and have had the potential of working hands-on with the local community. It was reasonably expected that the use of methods employed in SSM, particularly the use of a visual approach ('Rich Pictures') and a storytelling approach, would assist in gaining a holistic view of the current practices used within the college to learn of its environment from selected stakeholders. I expected group involvement (focus groups) to lead to learning about structures, processes, perceptions and beliefs related to the extent to which the college understands its environment.

It is possible to use SSM techniques to explore various world views that impact on environmental involvement and scanning across campuses. Ultimately SSM can be useful in seeking accommodations that may be acceptable to all stakeholders. That is unquestionably a feature of SSM that might have been considered. However, in this context, I sought to use the tools of SSM to address my immediate priority: gain an understanding of what exists, reverting to the question: 'to what extent does the college (in the case of the first target interviewees: the campus representatives) understand its local environment?' The identified stakeholders (details thereof in figure 4-8) that were interviewed via a process of focus groups and semi-structured questions, were initially campus-based personnel, such as campus

managers and their management teams (includes Heads of Department, senior lecturers and co-opted specialists). The use of a storytelling approach, culminating in a *rich picture* that depicted the campus-based understanding of the extent to which the college understands its environment, was a useful platform of sense-making to start a further investigation of boundary critique using CSH. CSH served as a complementary treatment of the campus-based interviews, to reinforce certain areas already explored through tools of SSM, and to question other areas.

My treatment of this research took into account the complexity of the public TVET colleges, in this case, Majuba TVET College. The elements that define its boundaries may range from pluralist to coercive, given the existence of multiple stakeholders comprising of public and private sector entities, individuals of various affiliations, political and other, as well as varied demographics. Inevitably, I was compelled to ask questions like: 'who are the stakeholders?' 'Who are the clients?' 'What are they being served?' 'How should they be served?' 'Whose interest is omitted?' 'Who defines the parameters?' These questions are an inherent feature of the CSH questions, which guided me in an approach of enquiry that seeks *fairness*. I refer to table 4-5, which represents Ulrich's 12 CSH questions that have been reformulated, bearing the college context, and served as an instrument to conduct the part of my investigation that is aimed at critiquing boundaries.

4.9 ADAPTED VERSION OF ULRICH'S CSH THAT SERVED AS A RESEARCH INSTRUMENT, ALIGNED TO THE RESEARCH QUESTION

The adapted instrument (Table 4-5) has been tested against three subjects, who are stakeholders – two internal, the other external to the college. It was adjusted to ensure that the instrument is contextualised to the research topic, yet grounded in Ulrich's categories. Note that above mentioned stakeholders are not re-interviewed for the actual research. This exercise attempted to make the instrument as valid as possible (it ought to measure what it supposed to). Yet, at no point did I anticipate a possible range of answers; I was ready to accept that the instrument would have yielded answers that might seem out of context, which it did. This in itself provided useful insights. In assessing the instrument, I also considered that the adapted questions should not lose their accessibility to all stakeholders, beyond so called 'experts', as intended by Ulrich. Hence I integrated prompts in the instrument that sought to clarify or ask some of the questions in different ways.

Table 4-5: Ulrich's 12 Boundary Questions (CSH) Adapted to the Research Question

QUESTION IN 'AS IS' ANALYSIS MODE	QUESTION IN 'OUGHT' MODE
SOURCES OF MOTIVATION	
1) With reference to Majuba TVET College (prompt: in understanding of its environment), who is the Beneficiary?	With reference to Majuba TVET College (prompt : in understanding of its environment), who ought to be the Beneficiary?:
2) What is the purpose of understanding the local environment? (currently):	What ought to be the purpose of understanding the local environment?
3) What is Measure of improvement/ success on understanding the local environment?	What ought to be the Measure of Improvement/ success on understanding the local environment?
SOURCES OF POWER/CONTROL	
4) Who is the Decision maker? Prompt: who is in command of resources necessary to enable or further the understanding of the local environment.	Who ought to be the decision maker?: Prompt: in command of resources necessary to enable or further the understanding of the local environment
5) What resources (eg. financial, HR) are controlled (or not) by the decision maker, enabling (or not) understanding of the local environment	What ought to be the resources (ie financial, HR, etc) for the understanding of the local environment that should be controlled by the decision maker?
6) What conditions are part (or not) of the system in which the college understands its local environment	What conditions ought to be a part (or not) of the system in which the college understands its local environment
SOURCES OF KNOWLEDGE/EXPERTISE	
7) Who is the Expert/ provides expert support for the understanding of the local environment	Who ought to be the Expert/ or provide expert support for the understanding of the local environment
8) What formal and informal Expertise or relevant knowledge is required and is being used for understanding of the local environment.	What formal and informal Expertise or relevant knowledge ought to be required for the understanding of the local environment.
9) Who is the Guarantor for enabling or succeeding in the process of understanding the local environment. (probe into legitimacy /reasonableness of answers)	Who ought to be the Guarantor for enabling or succeeding in the process of understanding the local environment. (probe into the legitimacy/ reasonableness of answers)
SOURCES OF LEGITIMATION	
10) Who are the Witnesses (not involved in planning, but affected by plans?) Prompt: who are those parties who are affected by the process of understanding of the local environment, but not involved in it, and who represents them? Who speaks for those who cannot speak for themselves, who may feel marginalized?	Who ought be represented, or not be a witness?: Prompt: with respect to understanding the local environment, who are those affected parties who should be involved in this system?. Who should speak for them, ie those who may feel marginalized?
11) To what extent and in what way are the interests of those witnesses (uninvolved) impacted by the process of understanding the environment	To what extent and in what way should the interests of those witnesses (uninvolved) be impacted or not be impacted by the process of understanding the environment
12) What is the Worldview underlying the college's understanding of the local environment, Prompt: What visions, metaphors come to mind	What should be the Worldview underlying the understanding of the local environment, Prompt: What visions, metaphors come to mind in creating this ideal world view

(Source: adapted from Reynolds, 2006: 103)

While the methods related to SSM have been used within campuses, CSH questioning was employed within and beyond the boundaries of the campus, reinforcing answers gleaned from the current situation, as well as addressing the 'ought' questions.

Campus focus groups were engaged. SSM principles of eliciting perspectives were applied to each campus group, through storytelling (individual experiences of stakeholders have been the starting point) and dialogue to construct a *rich picture*. Thereafter CSH was aligned to semi-structured questioning to complement the views obtained, or even allow the group to question the information that they themselves had supplied, and revisit their past assertions. This is the typical impact of CSH, as its provocative questions lead to new insights and introspection. As a facilitator during the campus focus group sessions, I had started off with this plan. However, I had to be prepared to be led by the circumstances, and succumb to a non-linear approach, where I had to switch freely between the use of SSM and CSH principles.

It was intended that the campus- based research yield a vital information base of knowledge, as the campuses are the operational delivery sites and are perceived as the culmination of all planning, carrying its evidence, flaws and successes in campus outcomes. The adapted CSH framework promoted dialogue; the questions assisted in redirecting the interview back to the relevant aspects to critique boundaries, but also served to elicit additional information. The twelve CSH questions, adapted to suit the research context, was continuously reflected upon and improved where necessary to accommodate various contexts.

4.10 SELECTION OF STAKEHOLDERS

Figure 4-8 gives the flow of thoughts that led to the stakeholders tabulated in figure 4-9. All interviews were semi-structured, consisting of either focus groups or individual sessions. Note the following:

- In keeping with the conceptual plan, the selection of all stakeholders was preceded by an understanding of the college gleaned from chapter two, before asking the question: 'who are the stakeholders that interact, ought to interact with the environment, or affect or are directly affected by with the environment?' This led to the development of the table in figure 4-8.

- Internal interviewees broadly included those involved in primary activities, i.e. delivery of teaching and learning services typically on a delivery site, i.e. a campus, and those involved in functional or support functions. The primary client, i.e. students (Student Representative Council), also form a part of the internal investigation.

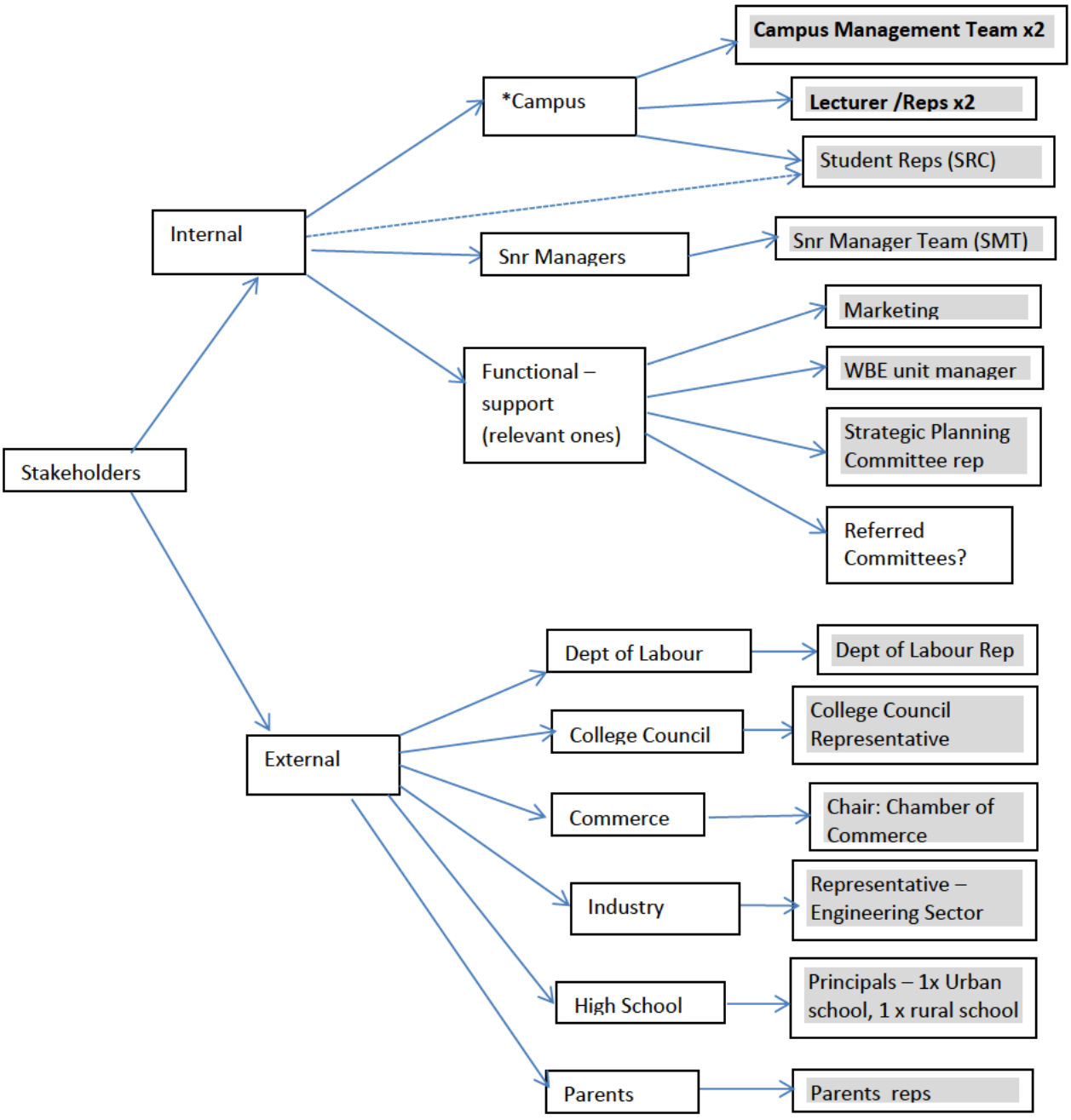
- I started interviewing at the primary level (campuses), this provided a base of understanding for the functional and management roles, student and external interviews that followed.

- The campus based interviews comprised of multiple stakeholders (campus manager, heads of division, academic specialists, lecturer representatives and head of administration). Focus groups incorporated both SSM and CSH principles of information seeking. The use of storytelling contributed to a rich picture.

- The campus based interviews, together with my understanding of the college from an operations, macro, and legislative level (reflected in chapter two), assisted in determining the designations of non-campus based interviewees. The non-campus based interviews of focus groups incorporate the principles of CSH, where an adapted list of Ulrich's 12 questions (Table 4-5) was used.

- It was expected that each set of interviews might generate information that would warrant the interviewing of further stakeholders who might have inadvertently been omitted. To accommodate such cases, a snowballing approach was used, and adjustments made where necessary.

Figure 4-8: Illustration of the train of thought leading to the selection of stakeholders



* the research began at the campus level, with the campus management (CMT) and other significant campus based roleplayers, that the campus nominated; insights thereof led to the finalisation of stakeholders beyond the campus level.

(Source: Lakhan)

Table 4-6: Overview of Target Stakeholders/Groups, How They Were or Would Have Been Sourced, and the Approach/Method Used to Draw Information

	Stakeholders/ Group	**Location/ Source**	**Approach/ methodology / Methods of Engagement**
A	Campus Management Team, including lecturer representatives	Selected Campus: 1 Rural, the other Urban	SSM tools, CSH Focus groups/ interviews
B	Key Corporate Client/s (represented by leading local company/ies) -Representative – Mittal Steel	Internal marketing department	CSH Focus groups/ interviews.
C	Representative: Chamber of Commerce: Newcastle area	Internal Marketing Dept/ Internet Source	CSH Focus groups/interviews
D	Students – groups per level per course	Internal -Student support services	CSH Focus groups
E	Parents/ Guardians -rural, urban, varied income levels	College MIS – and/or students' parents/guardians in 2 above	CSH Interview, focus groups, and/or preliminary questionnaires
F	Local Govt. departments and local schools. NPO and NGOs where/if applicable	College HETMIS and Marketing dept.	CSH Interviews.
G	Experts/ Planners/ Curriculum and Corporate Managers	College Management Campus Management teams	CSH and SSM Focus groups, interviews
H	Senior Management Team (SMT) ie. Principal, Deputy Manager – Corporate Services and Academic Services	Central Office	CSH Interview/ focus group
I	Assistant Manager - Marketing	Central Office	CSH Interview/ focus group
J	Chairperson: College Strategic Committee Representative/ Chair	Central Office	CSH Interview/focus group

NB: focus groups were preferred as respondents' attitudes, feelings, beliefs and experiences could be accessed. The group narratives were reinforced by group members sharing common experiences; they assisted one other in recollecting and making sense of experiences. , In cases where a selected unit, such as central support portfolio, comprised of only a single respondent, one-to-one interviews were used.

(Source: Lakhan)

4.11 ADDRESSING TARGETS RELATED TO GOAL SEEKING AND VIABILITY

Irrespective of the multiple viewpoints and stakeholder types, an uncompromising aim of a vocational institution such as Majuba TVET College, as espoused by the White Paper for Post School Education and the FET Act in chapter two, is to prepare students for the world of work, such that they become ready to participate in the national economy. Therefore socially embedded targets run parallel with a gamut of more concrete targets such as enrolment figures, student throughput and retention rates, and importantly, the placement rates of learners in industry and commerce. In this context, it is reasonable to conclude that the purpose that relates to the above targets ought to include to *enhance goal seeking* and *viability*.

Chapter two has reflected the need for *'*creating a coordinated and responsive FET system' as envisioned in the FET Act. This envisions the TVET institution and the external environment as an *organised system.* The words *responsive* and *system* implies the need for structured communication networks, inherent feedback systems, and an interflow of information and resources to and from the external environment. The literature review in chapter three lent some insight into such coordination and compatibility, in the review of international practices in the US, namely the University of Southern Indiana (USI). It was significant that the level of integration between USI and local industry was enhanced by structured systems. The partnering with industry and commerce, which included the placement of university personnel at workplaces, and the regular meetings of senior university officials to hold discussions with partners was improved.

With reference to the diagram in figure 4-5 and particularly, Table 4-3, the need to seek goals, and reliance on structure and coordination, brings to mind a more *structuralist* orientation, with the metaphor of a *brain or organism*. This refers to an entity that can constantly review, assess and make decisions, self-manage and function as an integrated whole. I therefore chose a systems approach that may reasonably create such a coordinated integration: the Viable System Model by Stafford Beer.

4.11.1 THE SIGNIFICANCE OF THE VIABLE SYSTEM MODEL IN ENHANCING GOAL SEEKING AND VIABILITY OF MAJUBA COLLEGE

Stafford Beer's VSM had been introduced in the literature review in chapter three, through the explanations of Hoverstadt (2010), and presents an approach to enhance goal seeking and viability in complex settings, its paradigm rooted predominantly in the functionalist domain (I refer to the tabular presentation of Jackson's Creative Holism in Table 4-3). I include the VSM in this chapter, to be considered in its diagnostic mode, such that it assists as a methodology to examine Majuba College's systemic involvement with its environments, by comparing the college's relevant features to the principles of the VSM. I base this possibility on the argument that Majuba College has features of recursivity, coordination, resourcing, development and policy or decision making, evidenced in its existing organisational structure gleaned during the background account in chapter two. The tussle between autonomy and cohesion is documented in chapter two as a mixture of centralised and decentralised services characterised by the activities of subsidiaries. While elements of the VSM might reside in the college structures, it is accepted that these features were never deliberately modelled around the VSM or any related model.

The rationale for using the VSM as a means to explore 'to what extent does Majuba College have a fair understanding of its local environment?' is based on the fact that the VSM is a definitive systems model that has built its credibility in its successful application in complex environments. Schwaninger & Scheef (2016) had reviewed the substantial corpus of case studies relating to applications of VSM, and concluded that the VSM was a 'reliable orientation device for the diagnosis and design of organisations to strengthen their vitality, resilience and developmental potential'. The VSM used in a diagnostic mode (a basis of comparison) will assist in offering insights into the strengths and weaknesses of Majuba College's structure that assists or prevents the college from understanding its local environment. It also assists in answering the related research question: 'in what ways has the college adequately aligned itself to the local market?'

4.12 CONCLUSION: A REVIEW OF SYSTEMS THINKING AS A BASE FOR THE RESEARCH DESIGN

Chapter four presents the theory that relates to Systems Thinking to demonstrate and justify

its relevance and capacity to serve as a means to surface, explore and improve problematic situations. This chapter further underscores the suitability of Systems Thinking in this particular research environment, outlining its relevant approaches and methodologies that assist in dealing with the TVET environment. The college sector environment is relatively complex; the setting of the problematic context is steeped in a social and political malaise, its stakeholders ranging from pluralist and sometimes arguably coercive. Hence, this chapter makes the inappropriateness of a quantitative approach clear, and justifies the preference to deal with the complex TVET environment using qualitative means that thrive on a constructivist approach.

The chapter also reflects its preference for using 'Creative Holism' which assists in interpreting the problematic situation in the context of its environment creatively, to help the systems practitioner select systems approaches, methodologies, and methods of intervention. The culmination of Jackson's Creative Holism, is his Total System Intervention (TSI), which advocates the creative mixing of different methodologies and methods drawn from various systems theories, to intervene in a problematic situation. While this chapter attempts to interpret Jackson's Creative Holism in a combination of models (illustrations and tables), such models will be used judiciously, mindful of the pitfalls of pigeonholing and dogmatism.
Through Creative Holism, this chapter has reflected its choices of a mixture of the Narrative approach, Soft Systems Methodology (SSM), and Critical Systems Heuristics (CSH) to conduct the research. While narratives and principles of the SSM assist in providing a *rich picture*, the CSH is aimed at revealing what is, compared to what ought to be, in keeping with the aims and the conceptual framework as reflected in chapter one. Chapter four also justifies the need to reflect on the Viable System Model (VSM), as a diagnostic systems tool that is appropriate to this work, as it relates the need to view the organisation in the context of its environment.

This chapter has also set out the rationale for identifying stakeholders who would be interviewed. It divides stakeholders into internal and external, taking cognizance of how interviews would be facilitated and structured, using the base of the SSM and CSH in semi-structured focus groups or one to one interviews, where applicable. This sets the scene for the gathering of information.

5. CHAPTER FIVE

FINDINGS – UNDERSTANDING THE CONTEMPORARY SITUATION THROUGH STAKEHOLDER PERSPECTIVES

5.1 INTRODUCTION

This chapter will feature:

- The perspectives of various participants who are stakeholders.
- The portrayal of the various perspectives in a holistic way in order to make sense of them, using interpretive methods derived from systems theory, as outlined in chapter four.
- The attempts at subjecting the various stakeholders to critical questions that assist them as well as myself to critique their perceived boundaries and reflect upon or redefine these boundaries.
- The attempts at subjecting the various stakeholders to 'ought' questions, as discussed in chapter four, that would assist in establishing a normative map.

In making sense of the perspectives of the various participants, I considered it important to be mindful of the historical perspectives of Majuba College, its broader environment and the college sector as espoused in chapter two. The overview in chapter two assists in understanding some of the perspectives offered. At times, the perspectives reinforce that which I am aware of in chapter two. At other times I am drawn to critically question the discrepancies that the perspectives bring to the fore, with the conflicting circumstances or legislative backdrop presented in chapter two.

During this chapter as well as the final chapter, the above perspectives will be examined against the literature review in chapter three, where relevant, to critically review and contextualise the college practices against a wider set of theories and practices, and importantly, to seek improvements where possible.

The intention of this chapter was to identify a set of recurring themes or salient issues that impact on the research question: 'to what extent does Majuba College understand its environment?'

5.2 PERSPECTIVES FROM THE CAMPUSES (DELIVERY SITES)

As outlined in chapter four, my first focus groups were from two campuses of Majuba TVET College:

a) A predominantly Engineering Campus (Campus A) based in a township.
b) A predominantly Business Campus (Campus B) based close to the urban area.

These two disparate campuses reflect typical campuses of Majuba TVET College, but also most public college campuses that exist in KZN or the country. Campuses have been traditionally either aligned to engineering studies or commerce studies, as in this case, which ought to reflect the majority of nationally approved programme offerings of the DHET that are commonly delivered within colleges. Campuses have historically been located either in urban or rural (township) areas, with reference to the Apartheid's segregationist policies, as espoused in chapter two. Hence the colleges were chosen with the intention of ensuring that the campuses are reflective of the range of dynamics that Majuba College, like most public colleges, typically deals with, so that the engagement and insights derived may be rich enough to stimulate reflective dialogue.

The first focus group was the campus management team (CMT) in Campus A; the team comprised:

- All (three) Heads of Divisions which covered both NCV and NaTED programmes, as well as Electrical, Mechanical, Civil and Primary Agriculture fields.
- Five (of six) Senior Lecturers, also covering all the above programmes and fields. A staff representative was also present.
- The Campus Manager. It is significant that each of the Heads of Divisions above, had, at different stages within the previous five years, acted as Campus Manager.
- One HOD involved in the new Work Based Experience (WBE) Division; this staff member's work entails the placement of campus staff members in industrial (engineering) work sites.
- A lecturer who is a staff representative.

The second focus group was at Campus B; the team comprised:

- The Campus Manager.
- One (the only) Head of Division, covering Financial Management and Computer Literacy.
- Three senior lecturers representing various business fields within both NaTED and NCV

programme areas.
- A lecturer in a specialist field (Hospitality), who was also a staff representative.

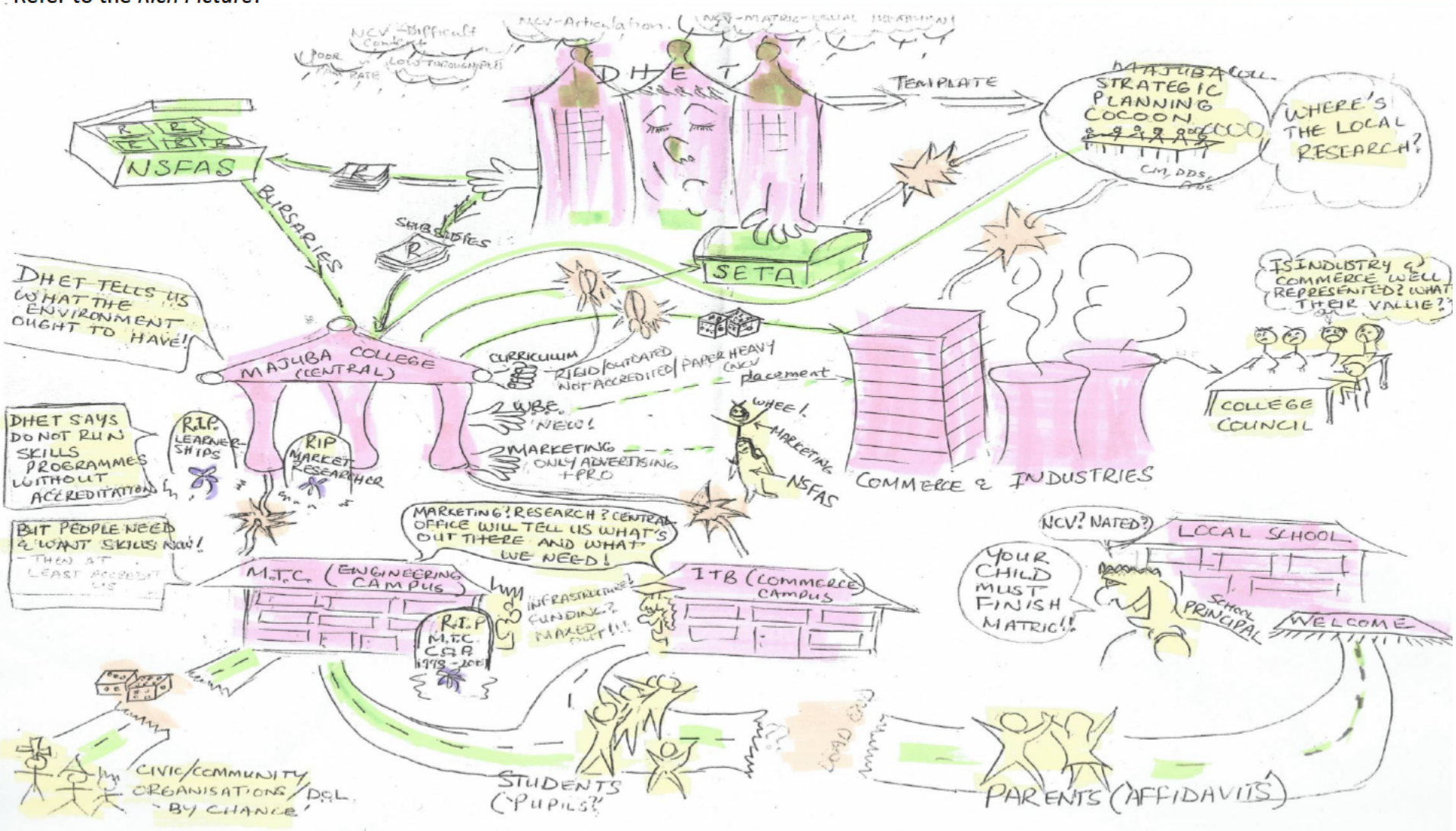
The teams in Campus A and Campus B were interviewed or engaged for three sessions each, each session having a distinct purpose. The purpose of the initial engagement at each campus was exploratory, seeking their perspectives of what essentially is the research question: 'to what extent does Majuba College have a fair understanding of its environment?'

The absence of significant college or DHET policies that seek to understand the environment, juxtaposed against the fact that colleges inevitably do work with stakeholders from their environments regularly, makes the answers to the research question varied and unpredictable. The fact that external stakeholders (students, community leaders, industry, commerce, parents, etc.) cannot be ignored in the daily narrative of campus and college life, the short answer that the college does not engage with the environment was never a preferred option of any interviewee. On the other end of the spectrum, nor was the answer by any interviewee a confident affirmation of understanding the environment, coupled with an explanation. Instead, the engagement with the campus staff members was reduced to (or enhanced by) anecdotes, uncertainties, inspirational narratives of good practices, blame and denunciation, and references to several interconnected issues that either debilitated or absolved them from acting in certain ways.

My approach to the campus-based engagement, as motivated in chapter four, was to allow for the natural flow of narratives in the first engagement of campus stakeholders, and collate the key issues into a *rich picture*, typically used in SSM. The approach of allowing for the flow of narratives was a reactive one that occurred during the first engagement with Campus A, whereupon I realised that the stakeholders responded in narratives of past practices, referring to the lack of policies relating to the understanding of the environment. I retrospectively established the narrative approach as complementary to the use of rich pictures, to gain a wide angled view of the responses in relation to the college and its environment.

Figure 5-1 : Rich Picture Depicting the Responses of Campus A and Campus B, following Focus Group Interviews

Refer to the *Rich Picture*:



(Source: Illustrator - Lakhan)

The responses from both Campus A and Campus B were in the form of narratives that were consolidated into a *rich picture* (figure 5-1).

The table below provides an overview of the key discussion items, gleaned from the narratives.

Table 5-1: Responses of Campus A and B, Categorised into Discussion Elements

Key Discussion Elements	Response: Campus A	Response: Campus B
Central policies related to scanning the environment	Unaware of any such policies.	Are certain that no such policies exist.
Marketing of the campus	Claim that all marketing is located at Central Office and the campus is not involved. Perceive NSFAS bursaries incentive makes marketing redundant.	Perceive marketing as a central office function that focussed on creating awareness only. No market research evident. Success in marketing is propped up by NSFAS bursary incentive.
Market Research	Perceived as a central office responsibility of the marketing unit. They distrust the college's sources/research that inform decisions, esp. closing programmes.	Perceived as a central office undertaking that has failed. Doubt the college's use of research. Question the relevance of their courses.
College strategic planning	Perceived as central office responsibility. Campus will oblige with information where required.	Aware that college strategic plan is driven by the central office. Contend that the research component is lacking.
Relevance of curricula	Some courses are perceived as pitched unfairly higher than matric, lengthy and lacking practical work. Discourages job seekers and potential employers.	Perceive NaTED curricula outdated. Discourages employers from hiring students.
Perceived markets	Perceived as mostly local township students 'denied admission by universities', & incentivised by NSFAS bursaries. To some extent – industries, viz. ArcelorMittal Steel and Venko.	Majority of 'out of town' students incentivised by NSFAS bursaries. There are some local students. No industries/companies linked to the campus.
Perceived needs of surrounding communities	Skills Courses, accredited or not. The need for immediate and urgent skills training to the unemployed was debated against the need to wait for accreditation.	Skills courses. Debate of whether urgent skills training that increases the likelihood of employment ought to be accredited or not. Example: Computer literacy.
Who engages with the external environment	Central Office. Campus lacks the authority or mandate to formally engage.	Central Office. SMMEs, etc., would not directly approach the campus.
Partnerships and linkages	Partnerships with the Department of Agriculture and SETAs from time to time. Past linkages with civic bodies and municipalities.	Last known partnership was with a guest house, for two students, years ago.

(Source: Lakhan)

5.2.1 DISCUSSION RELATED TO TABLE 5-1: POLICIES AND PROCEDURES

Both Campuses indicate that there is an absence of policies and procedures with regard to the engagement with the external environment. This is significant as it implies that the only available avenue of learning the extent to which the college understands its external environment is the practices of the central office and campuses in their engagement with their local communities and institutions. In chapter two, the range of legislative prescripts relevant to the TVET sector was reviewed; they reflect the need to engage a spectrum of learners that have been historically disadvantaged, evident in the White Paper for Post School Education, FET Act, Skills Development Act, and Skills Development Levies Act. It would therefore make sense that further in-house policies ought to have been developed by institutions to attain the objectives within these prescripts at local levels. Notwithstanding, in the absence of a customised college policy, it would be reasonable to assume that colleges ought to align themselves with the existing national prescripts in their practices. The narrative relating to Campus A's partnerships with the Department of Agriculture, as well as their attempts at delivering SETA programmes, reflects some of the attempts in translating these policies into college practices. However, there is an overall absence of a considered approach in dealing with facets of the community (e.g. industry, commerce, civic organisations, NGOs, NPOs, etc.). Anecdotal accounts relate to ad-hoc practices of engagements with the external environment.

5.2.2 DISCUSSION RELATED TO TABLE 5-1: MARKETING OF THE CAMPUSES

Campus A was quick to point out that 'marketing' did not lie within the scope of their work. They insist that the central office has the responsibility of marketing. They did, however, express the view that the central office promoted the awareness of the college, not necessarily the campus. Campus B was critical of the fact that marketing presupposed the existence of market research, which they insisted was not the case at Majuba College. They believed that the marketing department simply created awareness through social media and newspapers. The fact that many students were attracted to the college was attributed to the NSFAS (bursary system) incentive rather than success in marketing.

5.2.3 DISCUSSION RELATED TO TABLE 5-1: STRATEGIC PLANNING

Campus A and B indicated that the college strategic planning was centrally coordinated. They,

as campuses, were invited for strategic planning sessions within a short period. Campus B was derisive of the central office's lack of emphasis on research and the lack of environmental scanning. It was critical of the rigid adherence of the central office to a DHET template related to strategic planning, as though the Strategic Planning Committee was attempting to complete a checklist. Campus B expressed the irony that they had not received feedback on their reports prior to strategic planning (there exists poor feedback from the central office), yet during the month of strategic planning, the communication is frantic, to complete their 'template'.

5.2.4 DISCUSSION RELATED TO TABLE 5-1: RELEVANCE OF CURRICULA AND ITS IMPACT ON THE EXTERNAL ENVIRONMENT

Campus B expressed concern that the bulk of their coursework ('90%') was theory, and little practical. Their informal interaction with industry and commerce informs them that industries and businesses prefer students with practical knowledge and skills. They observe that students themselves are motivated when exposed to hands-on training, and their attendance improves. The campus claims a disconnect between the curricula and needs of the external environment. They further feel that the outcomes of strategic planning did not sufficiently address this disconnect.

On the rich picture, the areas of disconnect, such as cases where curricula lack relevance to industry's needs, is denoted by an explosion or a scissor.

5.2.5 DISCUSSION RELATED TO TABLE 5-1: MARKETS

Most of the students in Campus A were from the local township and beneficiaries of NSFAS bursaries, while most of the students of Campus B were from 'out of town'. The Campus B focus group believes that out of town students are attracted to remote campuses owing to their pursuit of boarding and transport funding from NSFAS, which they use for reasons beyond personal sustenance and travel to college.

The Campus A focus group proclaimed that new student recruits were abundant owing to their being denied spaces at universities and universities of technology, hence portraying the college as the last outpost for their studies.

Campus B mentioned that its main market is high schools but it has no communication with

schools, and makes no attempt to communicate with them; such activities are deemed a college central office function. They also recognise the negative mindsets in schools and communities with regard to vocational education, and have no means to influence that. They do not have *Open Days* nor *Parents Meetings* (they refer to a feeble attempt to host one). They debated whether it is their responsibility to treat students like school pupils and engage parents; hence the house was torn over lack of parent forums. At this point it needs to be noted that parents are not formally represented as stakeholders on any forum of the college.

The campuses also raised the concern that high schools are their feeders yet also their competitors, as the college's NCV is the vocational equivalent of the General Education and Training's (GET) National Certificate: Schools (NCS). The campuses are convinced that schools try to retain their well-performing pupils and use the colleges as 'dumping grounds' for their problem pupils. The campuses are resigned as to how the central marketing deals with this challenge, and do not believe that the college is influencing this important aspect of the environment.

5.2.6 DISCUSSION RELATED TO TABLE 5-1: HISTORICAL REFERENCES AND ANECDOTES – PAST PRACTICES

This segment occupies its own space in this account because the narratives were rife with nostalgic references to successful past practices now defunct. The Campus A focus group explained how the campus ran a successful Community Outreach Programme fifteen years ago. This was a set of short skills courses offered to the local community, in collaboration with the local councillors and community bodies, for the express purpose of increasing the employability and self-employability of local citizens. This has ceased in recent years as funding from DHET has ceased for all non-official programmes. It is unlikely to re-start unless the campus acquires accreditation for its skills programmes, and acquires funding from other sources, such as the SETAs.

Other anecdotes include the launch of skills projects in collaboration with a local church, following an outcry from a pastor who complained about deviant youth, who required vocational training to move their attention away from scandalous activities. Significant anecdotes revolved around running of engineering workshops for youth who were rehabilitating drug abuse victims. There were those narratives that for the most part related to

chance meetings with external stakeholders, leading to meaningful training and learnership initiatives, such as local municipal plumbing and electrical projects for in-service trainees of the college. In each case, successful engagements were initiated by campus middle managers or lecturers owing to incidental interactions with family or friends who might have worked in relevant settings, e.g. municipalities.

Besides a partnership with the Department of Agriculture, a common theme that runs through the above successes is the incidental nature of the initiatives. Hence on the rich picture, such occurrences are symbolised by a dice, referring to the fact that they occurred by chance rather than any structured plan.

Campus B, on the other hand, reflects very little engagement with industry, their last alliance being the funding of two hospitality students by a guest house. They attribute the lack of success to the rigidity of their DHET approved and funded courses, that industry finds less relevant.

5.2.7 DISCUSSION RELATED TO TABLE 5-1: AUTHORISATION AND PROTOCOLS

Both campuses insist that they do not have the authority or mandate to formally engage the external environment (this includes communities, industries, businesses and civic organisations). They refer back to the central office, which ought to deal with such engagements, reasonably pointing out that industries prefer not to have multiple stakeholders from the college liaising with them. At this point, it might seem clinically sound that this is the case, but the narrative gives the impression that their deflection leans towards an impassioned defence. It might seem reasonable that the campuses insist that they are doing what they are supposed to, and take no responsibility for the work of the central office. However, if the central office work is to essentially link the campus with the external environment, it would have a significant impact on the campus' operations, therefore one would expect a cooperative, communicative relationship between the campus and central office, each understanding the other's role, where duties are segregated, shared or at the very least, supported. This perceived disconnect between the campuses and the central office in relation to the understanding of the external environment would require further investigation.

5.2.8 DISCUSSION RELATED TO TABLE 5-1: THE WORK BASED EXPERIENCE (WBE) UNIT

A recent initiative has been the creation of a central Work Based Experience (WBE) unit. This unit, run from the central office, seeks to place learners[9] as in-service trainees in industries and businesses. It also has a very recent component that seeks to up-skill lecturers by placing them in industries and businesses. The campuses seem to lean on this unit as their link to the environment, via the central office initiative. More information will surface with the engagement of the WBE representative at the central office. Campuses once again see this as a central office initiative and seem divorced from its operations.

5.2.9 TAKING STOCK OF CURRENT FINDINGS

The overview of narratives from Campus A and Campus B serves as a starting point, providing a mental stimulation for further reflective dialogue, and importantly, critical selectivity. The scenario is sufficiently holistic and fertile for the introduction of a CSH based investigation. Beer's adapted set of questions would have the effect of forcing stakeholders to reflect on issues from different perspectives, question their own convictions and even stimulate participants to discover solutions. The campus experience has also assisted in confirming or identifying further stakeholders (central office or other) to interview.

It must be noted that the rich picture shown in figure 5-1 is a revised version, after the second iteration, i.e. after the application of CSH based questions at the campus level.

5.2.10 INTERVIEW WITH THE STUDENT REPRESENTATIVE COUNCIL (SRC) OF MAJUBA TVET COLLEGE

The SRC President, SRC Secretary and SRC Ex-President were interviewed as a focus group. Although the interview was conducted in Campus A, where the President of the SRC was a student, the President of the SRC and his team generalised their views to all campuses, as well as their roles as a central executive body. The semi-structured interview took into account CSH type questions, where relevant; most key questions were derived from the previous responses of the campus and central office respondents, especially where the SRC or student body was

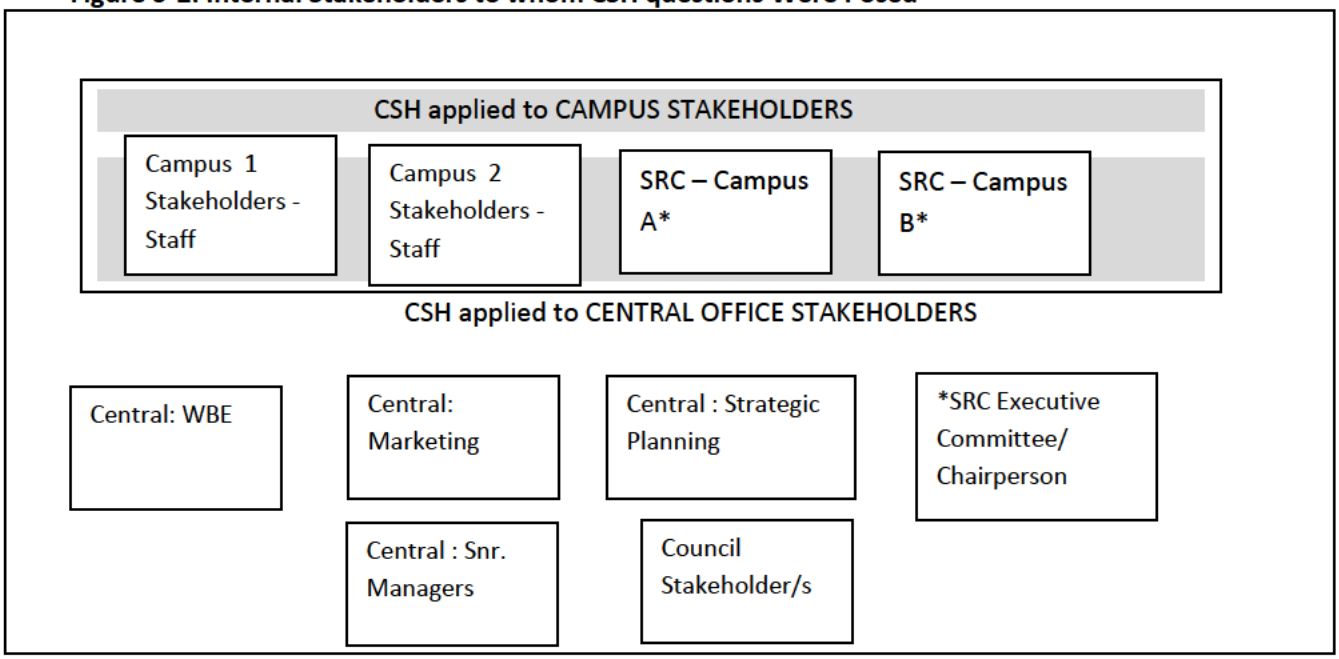
[9] These students are exit level students i.e. Level 4 and N6 students. N6 students will need 18 months (Business Studies) and 24 months (Engineering Studies) for their diplomas. Level 4 (NCV) require 12 months of WB exposure. They also obtain apprenticeship contracts.

implicated.

5.3 THE APPLICATION OF CSH ON CAMPUS, CENTRAL OFFICE AND EXTERNAL STAKEHOLDERS

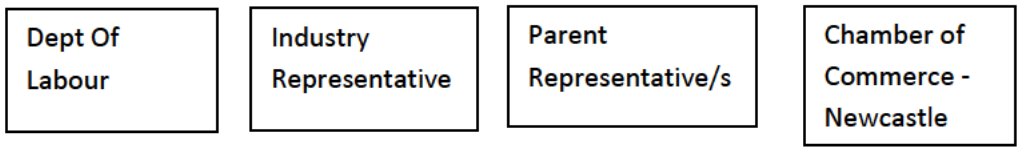
The sketch below (figure 5-2) illustrates the use of Ulrich's CSH, as applied to various stakeholders, to arrive at a set of perspectives that may be critically reviewed to address the research question, in relation to the backdrop of chapter two.

Figure 5-2: Internal Stakeholders to whom CSH questions Were Posed



(Source: Lakhan)

Figure 5-3: External Stakeholders to Whom CSH Questions were Posed



(Source: Lakhan)

5.4 THE APPLICATION OF CSH PRINCIPLES AT CAMPUSES

The adapted use of Ulrich's 12 questions in subsequent engagements with the campus, allowed the campus stakeholders who were party to the earlier narratives and construction of the initial rich picture, to reflect on thought-provoking questions relating to their campus

engagement with the external environment. The impact of this, as will be gleaned in forthcoming paragraphs, is that campuses were able to provide richer perspectives that either added to or reinforced their earlier accounts, or allowed them to critique their own stances, and revise their positions. The campus focus groups contained various role players (the campus manager, heads of divisions, specialists in various fields, i.e. senior lecturers). The questions were put to each focus group in each of the two campuses. The groups discussed, debated, and sometimes sought consensus before an answer was forwarded. I have also noted areas where opinions were torn.

5.5 THE APPLICATION OF CSH PRINCIPLES AT CENTRAL OFFICE, TARGETING STAKEHOLDERS IN RELEVANT FUNCTIONS

Ulrich's CSH questions were also adapted to stakeholders in positions occupied at the Central Office of Majuba TVET College. The choice of central office stakeholders was gleaned from the campus deliberations, especially from the surfacing of issues during the formation of a rich picture. Also, it was obvious that certain individuals had to be interviewed, viz. those who were either in the direct line function of external activities, (e.g. marketing representative and Work-based Experience Unit representative) as well as key decision makers in leadership positions (i.e. Principal, Deputy Manager – Academic and Deputy Manager – Corporate Services). I also interviewed College Council members and representatives from industry and commerce, who also formed a part of the external environment, as they were figureheads in industry and commerce.

5.6 THE APPLICATION OF CSH PRINCIPLES TO EXTERNAL STAKEHOLDERS

The external stakeholders were the Chamber of Commerce and a representative from the largest local industry, ArcelorMittal, who is also represented on the College Council. I also interviewed the Manager of Department of Labour, Newcastle, who also serves on the College Council. My interviews were mindful of this dual role, and I probed each role where required.

I am wont to expect that the parent group would be a significant component. However, it had grown obvious that they were not represented on any structure within the college, and their marginalisation was echoed by other role players interviewed, from the campus level to the central office. Preliminary questionnaires were randomly used to get the feel of the feedback

from parents. Of 40 questionnaires administered, 20 at each campus, 24 were returned, 16 from Campus A and 8 from Campus B. Three parents from campus A and two from campus B were interviewed.

The local high school principals were important external stakeholders, as colleges derived most of their students from high schools. An urban and rural high school principal, from high schools that feed both the affected campuses, were interviewed.

5.7 USE OF CSH TO CRITICALLY JUXTAPOSE THE REFLECTIONS OF STAKEHOLDERS

The following reflects the diversity of views by the different categories of stakeholders above, in response to an adapted set of Ulrich's CSH questions as tabulated in chapter four. In essence, it is a compilation of the various views per stakeholder, each of whom having been asked very similar questions, in a semi-structured format. The responses are critically juxtaposed, to reveal their merits and weaknesses. Where applicable, I also drew in any pertinent factors borne of legislative, historical or operational factors, as gleaned from chapter two, that impact on any of the stakeholders' views.

The questions are in the 'is' mode, demanding the respondent's perception of the actual situation; his/her answer inevitably reflects a level of selectivity, which will be examined critically against those of other respondents.

The 'is' questions are followed by the corresponding 'ought' questions, either consecutively or sometimes integrated into a single paragraph. These questions demand the respondent's perceived normative or ideal stance. This itself would be examined against other stakeholder's normative perceptions in this chapter. In the final chapter, the 'ought' responses, for the most part, would be more critically examined against relevant frameworks gleaned from the literature review in chapter three. In addition to providing the respondents' selective and normative positions, the CSH questions added to the richness of the picture.

The CSH questions that follow served as lead questions to provoke thought, from which responses could be probed. Not all questions lent themselves to critical responses, and at certain points, repetition of responses was evident.

5.7.1a) In the context of understanding the local environment, who is the beneficiary? That is, whose interests are being served?

Both campus teams expressed uncertainty when they mentioned that it is the *learner*. Campus A expressed concerns that the learners, as beneficiaries, were secondary to bureaucrats within DHET and government, who were greater beneficiaries. It was mentioned that the targets of these stakeholders needed to be met, irrespective of its negative impact on quality. The campus claimed that the perception of students as numbers and sources of income, as demanded from DHET and driven with the same mindset by the college, dampened the students' benefits. The DHET's drive to increase TVET student numbers translates into the personal targets of line managers at colleges to boost campus' student numbers. The target of student growth is incentivised by the prospect of fulfilling personal ambitions of line managers borne of the post-upgrade incentives that result with student growth. Hence beneficiaries were perceived to extend from bureaucrats, down to successive layers within the college structure. Campus A also added that the system is overly focussed on serving an unannounced political end, and this is visible in the influence of the SRC and related strike actions, which are aligned to specific political parties. The discussion tended to refocus on the students as beneficiaries of NSFAS bursaries yet ironically not always the appropriate beneficiaries, as it was questioned why the NSFAS bursaries lacked sufficient regulation; funds were deemed to have been improperly allocated and inappropriately spent, which further fuelled student unrest.

Campus B considered industries to be the least significant beneficiaries as they felt that the students fell short of industry's requirements owing to the college's rigid curricula and dominance of theory instead of practical work in NaTED courses, as well as the poor resources linked to practical work in the NCV courses. They also referred to the poor marketing of the NCV courses as a reason for industry's alienation of NCV students. Campus A mentioned that industry benefited marginally, as training was not adequately aligned. However, they affirmed that NaTED Engineering courses enjoyed a tradition of acceptance by industry; this is articulated and supported in chapter two. Therefore the campus was of the view that companies were willing to accept learners in the engineering field on the basis of apprenticeships, where the industry takes responsibility for the practical component of the apprenticeship.

The SRC focus group see the students as beneficiaries partially, as change is 'not happening enough'. The system is plagued by poor throughput rates owing to student financial problems, non-delivery of bursary (NSFAS) payments, poor curricula and negative perceptions of qualifications, esp. NCV, resulting in unemployment or non-placement of graduates. The SRC also feels that there are narrow interests, where companies, even 'within the institution' (implying companies linked or partnering with the college, or having some presence on the College Council) and senior management have vested interests. Companies are seen as unscrupulous beneficiaries who are merely interested in making profits, hence they do not retain their in-service trainees – they are attracted to cheap labour. The senior management in the central office itself is seen to be 'in heaven' implying that they are disconnected from the plight of students. The SRC focus group perceive the delay in the disbursement of the NSFAS funds is not the NSFAS's fault, but the college's poor administration. They also allude to the college delaying payment to capitalise on the growth of interest on funds, while the funds lie in the college's banking account.

The senior managers view the student as the beneficiary. They mentioned the wider implications of the government and the economy of the country benefiting, as TVET colleges were an important part of the government's strategic means of addressing economic challenges. The chairperson of the Strategic Planning Committee felt that while multiple stakeholders benefited, lecturers themselves were beneficiaries as the college protected their livelihood (the college focused on 'job stability'). Her contention on lecturers' livelihoods being protected is based on the fact that lecturers are offered subjects that they can teach rather than what *ought* to be taught. This renders subject offerings static rather than responsive to changes in the external environment. This train of thought was echoed by the senior management, 'we are protecting livelihoods', but more with a sense of foreboding. The senior management felt that there was not much that could be done besides ensuring that existing lecturers are catered for by offering them the subjects that they are able to teach, unless the college engages in a 'massive retraining programme.' They emphasised their duty of ensuring that the colleges attain the required student numbers so that they can 'optimally utilise lecturing staff'. They raised the issue of the labour rights of lecturers and alluded to the power of educator unions, reflecting their awareness of the consequences of not taking into account the rights of staff. The trail of labour disputes and breakdown of employee relations as articulated in chapter two makes it conceivable that senior managers react tentatively to avoid

labour issues.

The WBE manager perceived the students as being the beneficiaries. From his perspective, those students exiting the system (NaTED – N6 students, and Level 4 NCV students), as well as N3 students with the potential of apprenticeship contracts, are those whom he attempts to place in industries in in-service or training roles.

External stakeholders involved in college governance agreed that the learner was the beneficiary, and this has a knock on effect: his/her families and surrounding communities and workplaces become beneficiaries. However this statement was qualified by mentioning that industry was not really being served as it should – the 'bigger picture is not realised', and that a learner's personal commitment contributes to the extent to which he or she is the beneficiary. External stakeholders representative of business and commerce perceived multiple beneficiaries, but the learner was the central beneficiary.

In examining the above responses, one needs to be reminded that the WBE is a fledgling unit, whose student placement figures are currently very low, therefore the student as a beneficiary in the context of being educated and trained is more prevalent than in the context of being placed in trainee or employment roles. It must be further noted that while the campuses feel that certain beneficiaries such as students are being compromised by perceived politically driven pursuits, the historical overview in chapter two, gives a political context to the new order, where previously marginalised communities are part of a legislative drive to attain equity and redress. This is embodied in the foundational legislative documents relating to Education and Training such as the FET Act and Skills Development Act. The South African constitution further allows for representative bodies such as the SRC, Educator Unions, etc. to organise and raise concerns through democratic mechanisms endorsed by the State, such as strikes and other protest actions. Hence, the extent to which these actions impact negatively (or positively) on teaching and learning, or discredits the beneficiation of students, industries and communities, within the boundaries of the rights of students or lecturers to be involved in organisational protests, is itself an area that requires critical examination.

The perception of a student as a number is given prominence at campus level, and is repeated throughout various interviews, including the senior managers' interview. The DHET mandate is to increase student numbers to 2,5 million TVET graduates in 2030 and the DHET

administrative system is geared to subsidise colleges in proportion to their FTEs (full-time equivalents), as discussed in chapter two. The added response from the campus relates to the incentivising of campuses to increase their numbers by creating an expectation of campus and post upgrades. This is a fair comment as it is embodied in the draft Post Provisioning Norms of colleges, in essence creating an action-reinforcement system from DHET to Campus level. The thrust of the campus contention that the system (from DHET to colleges) is drawn to 'chasing numbers' is valid, as the White Paper for Post School Education pronounced its intention of rapidly growing the TVET sector. However, the argument that the chase for student numbers by DHET is a reckless and overly ambitious political act, needs to be tempered by the counter argument that the stance of the DHET may be viewed as inescapable, given their need to address major national issues such as gross unemployment, economic growth, youth development, etc. as articulated by the White Paper for PSE, and the FET Act. It must also be noted that some technical disbursement system is always required to maximise outputs from a limited income source. This is achieved by using the Full-Time Equivalent (FTE) based approach against post provisioning norms and resource allocations. While criticism may be leveraged against any such system of allocation, it needs to be tempered with arguments that suggest alternatives. So the bureaucracy and numbers game needs to be critically viewed against the backdrop of a state organ that is dealing with limited resources.

5.7.1b) In the context of understanding the local environment, who ought to be the beneficiary? That is, whose interests should be served?

Both campuses, as well as representatives from industry and commerce, agreed that industry and commerce ought to be beneficiaries and if this is the case, the economy, the student, the parent and many other parties benefit automatically. The SRC felt that if students were the beneficiaries, so would their local communities whom they would serve. The campuses remarked that for industries to be beneficiaries, they would constantly have to be aware of college programmes through regular marketing, especially the NCV courses which have a low popularity in the market. It was also stated that for industry to truly be beneficiaries, the curriculum ought to be amended to align with industry requirements. The central office stakeholders, including senior managers and the WBE unit, agreed that the industry/labour market ought to be the beneficiary, and it will follow that other beneficiaries will be realised, i.e. students, community and economy.

While the Strategic Planning Chairperson concurred that the labour market ought to be the beneficiary, she added that it was a dilemma to determine who exactly ought to be the beneficiary (she possibly refers to more specific categories of beneficiaries) owing to the absence of credible research. She concluded that the college ought to hire a researcher; the credibility of information will assist in determining which programme-qualification mix to offer, and hence which markets to target.

The above statement arouses interest in how the strategic planning of the college unfolds. Chapter two reflects the duty of the college through its governance structures, to ensure that the college produces a credible strategic plan that informs the subsequent year's budget, and aligns the college's academic and corporate programmes to objectives and plans in tune with its vision and mission. An important component of such planning, implicit in the legislative framework, and mentioned in the White Paper for Post School Education, is the need for research to determine what the environment requires. Yet the initial round of interviews with campuses, and now reinforced by the strategic planning chairperson, yielded the view that market research is either insufficient or not relevant. This presents a conflicting view that the college on the one hand successfully concludes its strategic planning, yet on the other hand key stakeholders to strategic planning are conscious of the lack of 'credible research'.

5.7.2a) What is the purpose of the college/what is the purpose of understanding the environment?

The first response of both Campus A and Campus B focus groups was to educate and skill students with a limited set of resources and syllabi. Campus A, however, added that their perspective of the college, as viewed within their campus, was that the college was more a business than a public entity. Courses are chosen on the basis of programme-based funding allocated to each course compared to the resources required for the course. Hence it was felt that, if a programme was financially sustainable, or could generate a reasonable surplus from its subsidy, it was thus chosen, irrespective of whether the course was of benefit to the local community and industries or not.

Campus A also perceived the college to be an entity that provided and sustained jobs for staff, as well as served ambitions. They seemed perturbed that a strategic plan, that ought to spell out the purpose and plan of a college, could serve to enhance certain departments and shrink

others without proper motivation. For example, they complained about the downsizing of the programme: Safety in Society. They strongly doubted the body of research, if any that led to such a decision. They once again raised the concern that campus managers' decisions relating to growth are influenced by incentives of post upgrades through campus growth.

Campus A also perceived the purpose of colleges was to relieve the bottleneck experienced by universities; what the universities could not take in, the colleges would serve. They also saw the college as a political instrument, to be used by politicians as they saw fit from time to time.

The Senior Management perceived the purpose of the college to be the provision of education and skills to students to get them ready for industry and commerce. However, when asked for the purpose of understanding the environment, they referred to their marketing department. Marketing creates the awareness amongst students, and such awareness translates into an increase in student enrolments. Hence the senior management explained that while the marketing department does not visibly help them to understand what courses industries want, it does create some awareness of the college and its courses, and does to some extent, influence the rise in student numbers. The senior management was adamant that the purpose of the college, while creating an awareness amongst potential students of its offerings, must adhere to the 'straightjacket of subject offerings' laid out by the DHET.

The WBE representative sees the current purpose of the college as providing quality education and training to all students, so that they can complete their studies and be placed in industry or the public sector, for in-service training or permanent employment. Notwithstanding, the WBE manager recognises the ill-fit of many students in industry, given his anecdotes of feedback from particular local employers relating to the lack of basic skills of the college's level 4 exiting NCV Engineering students. He is none-the-less firm in the view that the intention of the college is similar to the visionary answer of what '*ought* to be the purpose of the college', and that the current challenges are part of a learning cycle. At this point, it must be pointed out that the WBE has no direct involvement in campus activities, as well as it thrives on quality education and training that ought to exist on campuses in order to place students successfully in industry and commerce.

The Strategic Management chairperson was less direct in describing the purpose of the college or the understanding of the environment. She mentioned that the current data (assumed as

whatever information is gathered) is now only for reporting purposes, serving only administration. She concluded that the college is not picking up alerts or trends in the environment; implicit in this, is what she construes as a part of a college's purpose. She also confirmed that campuses are not mandated to contribute to gathering intelligence in the local area. Her views are resonant with the environmental scanning theory in chapter three, especially environmental scanning as a component of organisational strategic management, where the relationship between research and organisational strategy is prominent. These views will be examined more closely against the college context in chapter six.

The external representative from the Department of Labour, like the Campus A focus group, reinforced that the college is more concerned about the numerical figures, i.e. growth of colleges by increasing student numbers. He perceives that those numerical targets are regularly met.

5.7.2b) What ought to be the purpose of the college/what ought to be the purpose of understanding the environment?

Both Campus focus groups were of the opinion that the colleges ought to serve the local community and industries, ensuring that their services are aligned to the needs of communities and industries. They felt that the college ought to conduct local research to establish what is required by local industries, etc. Hence colleges could adapt or realign curricula, tailoring courses to meet the flexible durations and relevance of syllabi content in step with employers' needs. They would, in this way, demonstrate relevance to the local industries and improve the employability of students. The need for surveys to establish industry's needs was reinforced by the industry's representative, who felt that industry's regular feedback of its needs would force the college into raising quality levels of service delivery. This was reinforced by the Chamber of Commerce representative who further noted that the college ought to acquaint itself with the local municipal project plans.

Both campus groups felt that there ought to be better communication, internally and externally. They alluded to the lack of bottom-up communication as a stumbling block to progress. Examples were cited where reports, including research work that recommended the integration of special needs learners on campus, were never given feedback. External communication was also criticised as the campuses felt that the purpose of the college ought to include the involvement of a wider array of stakeholders, including parents and employers. This view was reinforced by other role players at the central office, where the senior

management acknowledged the lack of parent involvement structurally. They also acknowledged that the interaction with industry and commerce lacked structure and was restricted to the fledgling WBE unit, with the specific goal of placement.

The campuses also felt that there was a need for colleges to offer quality education and training to students, and maintain the kind of discipline and systems to circumvent students from dropping out. While the need for quality is echoed by all role players, including the White Paper for Post School Education, there seems to be a conflict between the lack of resources, the need for growth, and the concurrent need for quality education and training.

The SRC perceives the college's purpose as keeping its commitment in timely releasing student bursary payouts, as students face financial burdens that lead to their dropping out (e.g. they cannot buy basic foods, and face eviction from boarding homes). They also perceive that the college's purpose is to make education and training relevant so that students may be more employable, by increasing the practical content of its NCV course. The practical content is theoretically at 70% but they claim that it is less than 30% in practice. The essence of this view is consistent with the views of NCV lecturers in Campus B. The SRC focus group would prefer that the Majuba Training Centre (a self-sustaining practical training facility that runs non-DHET funded programmes) be transformed into an NSFAS funded training centre that becomes the hub for industrial training and development of Majuba College students. The students also feel that if a company has a partnership with the college, it must take on the college students for in-service training, and that the college has to put pressure on industry and commerce to hire students. The SRC representative who is on the College Council, feels that the council, with its influential role players in industry, needs to spend more time in council meetings to find ways to increase the number of student recruits into jobs. Currently, he claims that this role is less than 30% of the College Council time.

The campus focus groups felt that research ought to be done on the learners – they ought to be profiled; where are they coming from? What types of schools and suburbs are they coming from? Hence, the purpose of colleges ought to include having relationships with local schools and perhaps its community forums. Research ought to be localised as well. It was also pointed out that work relating to marketing amongst schools (currently a mere advertising of college programmes) generally failed as colleges are still perceived as a dumping ground for schools. The campuses were of the opinion that this ought to be corrected somehow. The purpose of

the college ought to be to serve students who wish to aspire within a vocational field up to and beyond a matric equivalent. Implicit in this is the need of the college (and DHET) to find ways of positioning itself as a viable option for junior secondary high school learners. The campuses felt that they ought to be afforded a level of involvement in the recruitment and placement of students.

The purpose of the college ought to also include self-monitoring, It ought to track itself, i.e. its mission and vision, against its shorter term outcomes, instead of depending on external DHET audits to confirm its performance, as DHET performance criteria might not be relevant locally.

The campuses also recognise that a purpose of the college is to focus on quality recruitment of leaders and central office managers, as the decisions made by leaders have a visible impact on the campuses. The campuses currently see themselves as victims of mediocre leadership and management. Their uncertainty of the competence of their leaders and allusions to cadre deployment or poor recruitment practices is pervasive in their narrative.

5.7.3a) What is the measure of improvement in our understanding of the local environment?

Besides a few anecdotal accounts, the Campus A focus group is of the view that no data is available to show any measure of improvement in understanding the local environment. Campus B is of the view that there was no measure of improvement in such understanding. The SRC perceives that the WBE is an indication of some improvement in trying to understand the environment, and apart from that, there is no significant improvement known to the SRC.
The WBE unit manager was clear that an undertaking to measure improvement in the college's understanding of the local environment required *research*; he declares that research was not his mandate. However, during his role of placing students as trainees in companies, he observed the deficiency of research, and has raised this as a dire need. He cites his coincidental discovery of the shortage of diesel mechanics in the local area, leading to an informal intervention that resulted in motor mechanics being offered on a campus. He maintains that his task is to place the learner in that diesel mechanic repair environment, not to establish that there is a shortage of diesel mechanics in the area. He expressed concern about how many other training gaps exist.

Interviews with various central office stakeholders had also yielded a misperception that the marketing department is involved in research work. The use of social media to target students

was interpreted as a form of market research. However, it must be noted that marketing does not trawl information relating to prospective markets using technology as a means of research. Rather, the marketing department creates awareness of the college programmes through its advertising, through electronic and print media. This was confirmed in an interview with the marketing manager. There is also a perception that perhaps the curriculum department is either conducting or is aware of research being conducted locally. The curriculum unit declares that it is not.

The senior management concurs with the view that there is no improvement in the understanding of the local environment, and that research is absent. They, however, allude to WBE as a means to rectify this in the future, which is contradictory to what the WBE manager asserts. The senior managers also looked favourably at the marketing department conducting marketing research; however, this mandate has not been passed to them. The marketing department is clearly not involved in market research, as well as claim that they have no capacity to do so if requested.

The senior managers also clarified that their role is constricted ('straightjacketed') to ensure that the college offers what the DHET funds, and subsequently campus managers account for not achieving targets. The main target is referred to as enrolment numbers: 'if it goes down, we are concerned'. The senior managers assume that the areas in which they had been asked to taper off enrolments by DHET, was informed by research (e.g. electrical engineering programmes).

The manager of the Strategic Planning Committee confirmed that the college has no formal structure to measure its networks, nor test confidence levels or conduct client surveys. She recalls only one survey being run, yielding two responses from 60 companies. She also mentioned that the college, even if it has to measure the improvement in the understanding of the local environment, would not include civic organisations, as she believed that this was not part of their role.

The above vindicates the campuses in their assertion that certain offerings are prescribed by the central office, and that these do not have a traceable path of research into the local environment. The improvement of understanding the local environment is hence unmeasured.

The perception of external stakeholders such as in the DoL, is that certain traditional offerings

enjoy a regular market, e.g. the engineering N courses, owing to the need for artisans (there is an ongoing demand) as well as the existence of industries such as Venco, ArcelorMittal Steel, CarboChem in the area. Implicit in this view, is that, within the ambit of artisan training relevant to these companies, there exists a tradition of understanding certain obvious unchanging needs of the environment, which does not have to be confirmed by research. This narrow area might be such a case.

5.7.3b) What ought to be the measure of improvement in our understanding of the environment?

The Campus A group considered information of the college's externally–linked committees, networks and outreach units as indicators that would reflect the measure of improvement of the college's understanding of the environment, i.e. of industries, SETAs, civic organisations, etc. Implicit in these indicators are the number and quality of partnerships and memorandums of understanding with various role players in the environment. Campus B reinforced the need for these linkages, and included the need for active linkages with SEDA[10] and the Chamber of Commerce, as well as partnerships with institutions of higher education, i.e. Universities of Technology, for students to articulate into these institutions. They speculated on the extension of the role of WBE to assist in determining industry needs as the WBE was already interacting with industry for student placements. Alternatively, a separate entity may be formed to address these needs.

The campuses reflected on the need for industry representatives on the college council, as well as the college's own presence on high school governing bodies. They emphasise a three way link: schools, industries, and the college. Campus B also felt that there ought to be a marketing strategy that included high schools and parents.

They also recognise the need to keep track of all past students, employed/placed, self-employed or unemployed, and related fields in which they had studied, to gain feedback to gauge the relevance of the courses and/or detect internal breakdowns (e.g. inadequate marketing, etc.). Both campuses were convinced that this is not being done.

Both campuses pointed out that employment of the college learners (self-employment

[10] Small Enterprise Development Agency, which is an agency of the Department of Small Business Development

included) ought, in itself, to be an indicator of whether the college is improving in understanding the local environment.

Campus B recognised the need for research to determine local market needs to understand the local environment. The need for research to measure the improvement of the college's understanding of the environment was also implicit in the response of the chairperson of the Strategic Planning Committee. She articulated the need for electronic IT tools to track information and conduct surveys, remarking that the 'acid test ought to be the feedback from business and industry'. The WBE manager reinforced the need for a research component or at least an appointed researcher. Research ought to determine the match between what industries want and what programmes colleges ought to offer. The WBE manager reinforced that the role of research ought to include the identifying of scarce and critical skills required across the economic sectors, especially on a local level. The researcher will also take into cognizance the various SETAs sector skills plans, and integrate these perspectives into his/her work. The WBE manager felt that the researcher ought to visit various companies in assessing skills demands, and link with other important units within the college, especially curriculum. He further explains, using examples of his experiences with the food and beverages sector, that there is currently a mismatch of college offerings versus the food and beverages sector's needs. He outlined a series of actions to determine the markers that would indicate the college's understanding of the environment:

- Determine the areas that the college services.
- Determine the communities that are being serviced.
- Determine the local industries that exist around the communities.
- Those industries will inform the college's programmes that ought to be offered; the PQM (programmes-qualification mix) ought to align with the needs of industry.
- If the college does not have any such programmes in the NaTED or NCV offerings, it ought to run relevant vocational programmes that are SETA approved.

The WBE manager recognised the need for transparent dissemination of research information to relevant units within the organisation, including curriculum, senior managers, and campuses, to ensure proper communication and *joint action*, such that the use of information may be maximised. He illustrates this point by recounting the random discovery that senior students at NCV Level 4 were poorly trained in Building/Engineering Drawings – a gap that

impacted on the campus as well as central office stakeholders, that had to jointly work together to solve this problem.

The Senior Managers focus group of Majuba College also felt that the measure of improvement in understanding the environment ought to include the number of networks the college creates, the number of partnerships (including MOUs signed) and the number of students it places. However, they also recognised the need to up-skill lecturers by placing them temporarily in industries and businesses as a means to assist in the colleges understanding of the environment. They feel this would engender greater relevance in the classroom, and improve student placements.

External stakeholders such as the representative of the Department of Labour share the view that the measure of improvement in understanding the environment lies in how the college examines the demands of the environment to decide how to adapt their courses to meet those demands. He reinforces this view as he states that he is already aware, gleaned through his experiences in DoL, that students at colleges lack practical experience sought by industries. The much vaunted apprenticeship system, where learners qualify with trade tests, is held in high esteem by industry. He is in favour of colleges engaging in more partnering, networking and customising courses to industry's needs. These views are reinforced by the representative of industry and the Chamber of Commerce.

Most stakeholders, including the SRC focus group, who have representation in the college council, felt that the need to understand the local environment was underpinned by the need to identify career or job opportunities for students. Hence they felt that the process of understanding the local environment ought to start at the top. It was stated that the college council ought to increase its involvement in strategic issues regarding student placement and the external environment, from its perceived attention of about 30%, to at least 70%.

5.7.4a) Who is the decision maker/who can change the measure of success?

A focus on the decision makers gives an indication of who are the entities or parties that sanction the understanding of the external environment and how this is done.

The Campus A focus group regards the important decision makers to be the Senior Management Team (SMT), i.e. The Principal and his Deputy Managers (Deputy Manager –

Corporate Services, Deputy Manager - Academic Services, and the Chief Financial Officer (CFO)). However, the focus group members vacillated, also acknowledging that the College Council was perhaps a key decision maker, making the 'big' decisions; this body also included the Senior Managers. The ensuing conversation of who held the power ultimately, was not convincing. The team did, however, express that whichever body was the key decision maker, that body's power was diluted by the power of the SRC whom, it seemed, had a significant influence on college decisions. The SRC, ironically, present themselves as a vulnerable body and marginalised group.

There is merit in the reasoning that the SRC is not subordinate to the college management, as this is clarified in the Governance section of the FET Act (Section 6.1) where SRC representatives are members of the College Council, who ought to be consulted (Section 5(2)e). Hence they are a bonafide entity, set apart from the college hierarchical structures, implying that their influence may take on a coercive orientation from time to time. Beyond their implied theoretical power, student unrests have beleaguered teaching and learning at Majuba College in the first semester of 2016. The coercive nature of their power was evident in the destruction to properties in the form of two burnt classrooms at Campus A and damage to vehicles.

While it is clearly evident that student bodies are strong influencing forces in decision making, it is equally important to recognise the organised staff bodies (particularly unions) as strongly influential forces in college decision making, whose influence is felt at the highest levels. The SMT focus group expounds on the role of organised labour at Majuba College; senior managers expressed extreme guardedness in decision making. A senior manager remarked, 'the labour laws of the country ensure that you cannot do away with staff. So we end up protecting livelihoods.' Managers complain about their time being consumed in labour grievances. 'We begin with staff grievances that sometimes lead to CCMA hearings - it's unpleasant and time-consuming.'

Despite the fact that the College Council itself is a bona-fide body whose legitimacy is endorsed by the FET Act, with the express purpose of governing the college, the Campus B focus group felt that Senior Managers were the ultimate power source, as they had powers to influence the College Council. They felt that the College Council naturally leaned on the hands-on leadership of the senior managers, who ran the institution day to day. The SRC focus

groups, while also acknowledging that the College Council did not have formal power, emphasised the fact that they wielded significant political power and were really the 'big sharks' who influence decision making.

The WBE manager perceives the Principal as the important source of power, not inasmuch as making decisions are concerned, but more so in that the principal has the mandate to engage and consult with stakeholders, especially external stakeholders. The WBE sees the Principal's power to interact and negotiate as crucial as it impacts on the WBE manager's ability to increase networks with industries and businesses to enhance placement of in-service trainees of the college.

On the contrary, the senior managers, representing the Principal and his SMT, were adamant that neither they, nor the college principal hold substantial power, as the SMT is 'straightjacketed into what needs to be offered'. The Principal is rather a head of administration to 'see if there is compliance and execute government's mandate', and Deputy Managers support him. The senior managers claim that the key decision makers are DHET, and next is the College Council. Senior Management sees the College Council as a major role player in the governance structure of the college; their power supersedes that of the Principal. Their role of 'visionaries' (as expressed by the senior management) is important in 'moving the college forward.'

The chairperson of the Strategic Planning Committee concurred that the senior managers were agents of DHET, as they get their directives from DHET. However, her perspective of the more important role players within the campus was narrowed. She felt that the Academic Services Deputy Manager, within the senior management ranks, held the most internal power, as this manager is responsible for laying the initial framework that spurs the other components of the organisation. Currently there is a reliance on Academic Services to do the initial work, and other parties come on board afterwards. Implicit in this statement, is the fact that the lead custodian of the strategic planning of the institution (a plan that would guide the institution over the next three years), was the Academic Services Division, led by the Academic Services Senior Manager. It is this plan that also reflects the college's understanding of its local environment. The chairperson of the Strategic Planning Committee expresses that the other role players seem to be standing outside, waiting for work to be initiated by the Academic Services Department. I hence deduce that the power of the academic manager that she refers

to is tantamount to expert power, borne of the expert power of the Strategic Planning Committee. This view is resonant with the thinking that the Academic Services section is best suited to directly address the core purpose of the college, i.e. 'to provide responsive and relevant education, training and development'. This is reinforced in the college's mission statement.

However, the need for Academic Services to solely lead decision making without substantial debate and dialogue, is impractical as reflected in chapter two. It is made clear in chapter two that there exist the constraints of resources, impacting on every facet of the college (this is true for the entire sector, for that matter), from staffing to infrastructure. The lack of resources ought to translate into negotiated programme offerings, and concomitant compromises in infrastructure, equipment and the use of staff. Hence one would expect an ongoing, interactive relationship between Corporate and Academic services.

The Strategic Planning Chairperson, as well as an external representative, who represents Department of Labour on the College Council, were of the view that the College Council were appropriately not seen to manage. They ought to govern. Most parties perceived this difference.

However, the Department of Labour representative, as well as a College Council representative, made a point that the College Council could be instrumental in the success of any strategy, including that which seeks to learn of the college's local environment, as its role was to offer governance. But, he was convinced that power lay in the hands of DHET, as DHET controlled the college's access to funding. Financial power made DHET the main player. This is evident by the fact that DHET decides which programmes to fund, the amount or formulae it uses to fund the programmes, as well as DHET is in control of the hiring of staff, and payroll services. This view is reinforced by the representative of industry.

There is legislative support for this perspective, i.e. Collective Bargaining Agreement No. 5 of 2013 (ELRC, 2013), as reiterated in chapter two: the college had undergone a major change, where the responsibility of leading the college shifted from the college council to DHET. This fundamental change resulted in the role of the paymaster shifting from the college council to DHET. This may best be described as a process of centralisation, where the responsibility (and thus the budget) to pay for staff and services were shifted from the councils of individual colleges, to the DHET in Pretoria. Also, programme subsidies have been strictly allocated for

DHET approved programmes, i.e. NaTED and NCV programmes, and no other programmes. Hence, the new order restricts the senior managers in their financial decisions. The College Council representative's view thus holds an undisputable reasoning: DHET held financial power. They financed individual programmes as per formulae derived by themselves, prescribed the 63% staffing budget of the total college budget, and regulated the proportions of tranches of payments to the college. It is hence not surprising that the senior managers themselves refer to the DHET as having 'straightjacketed' the college into a series of programmes.

At this stage the feedback from stakeholders is convincing that irrespective of the fact that the DHET, senior managers and college council are decision makers, the significant power wielded by the SRC and educator union bodies play an indispensable role in influencing decisions.

5.7.4b) CRITICAL REVIEW OF THE IMPACT OF THE ABOVE PERSPECTIVES BY PERCEIVED DECISION MAKERS ON THE RESEARCH QUESTION

The impression of the SMT being responsible for making decisions to manage the college is supported by the FET Act of 16 of 2006, Paragraph 13 of chapter three, which states that the Principal is responsible for the management and administration of the college. While the SMT focus group does not deny their roles as stipulated in the Act, they refer to the limitations of their management functions, given the limitations of DHET budgets and stipulations on what programmes are funded. The question arises: do these limitations have the capacity of limiting the senior managers' drive to understand the external environment?

It was evident that the senior managers initially perceived that some work was already being done by the college in understanding the local environment, where they construed research as an offshoot of the work of the marketing department and the WBE unit. They were also under the impression that the strategic planning committee gathered and used research material that related to the local external environment.

However, interviews with the marketing manager revealed that the marketing division was resourced to deal with promotions and advertising only. An interview with the manager of the newly launched WBE revealed that this unit was primarily responsible for placing in-service trainees and apprentices with employers, not research or the seeking of an understanding of local environmental needs. The chairperson of the strategic planning committee was clear that

the committee used secondary research data passed on by DHET, which did not focus on local research. The secondary data sources themselves were not available. Interviews with the DoL representative on the college council confirmed the unreliability of using the sector skills plan as a source of local research. This is in tune with the findings in chapter three, which explored the sector skills information gathering. The research work on the unreliability of the sector skills data is substantial enough to support the DoL representative's view that the data used is inappropriate as research material.

Therefore, in answering whether the DHET limitations have the capacity of limiting the Majuba College senior managers (SMT) in their drive to understand the environment, it becomes reasonable to suggest that the SMT is not significantly debilitated. The SMT does have, to some extent, the power to put into place personnel, structures and systems to research or investigate the local environment. However, their challenge may lie in their motivation to do so, as their funded offerings are confined to standardized DHET programmes. Any other programme that is not DHET approved, would have to be funded from other sources, such as SETAs.

5.7.4c) THE APPROACH OF THE KEY DECISION MAKERS TO RESEARCH AND UNDERSTANDING THE ENVIRONMENT

After the CSH interviews, all interviewees, especially those perceived to be decision makers (SMT, College Council, and DHET), were either cognizant of the importance of understanding the external environment and the need for research in understanding the external environment, or had grown aware thereof.

However, to the SMT, the relevance of a research-based approach to understand the environment was diminished by the fact that the college is, in any event, 'straightjacketed' into certain courses, and certain actions, owing to DHET imperatives and constraints.

The SMT reinforces their sense of disempowerment borne of these constraints by further raising the need to be circumspect when dealing with staff or union bodies and attempt to avoid labour relations challenges. They perceive the aligning of the curriculum to meet the needs of industry and commerce as having the potential of destabilising the college from a staffing perspective. For instance, if staff members are forced to teach new subjects, or have to be retrained, or worse still, are found to be redundant.

Yet, strangely, the SMT, through the strategic planning committee, implemented subject programme changes that the campus focus groups considered controversial, i.e. cutting back on the electrical programme enrolments, and intending to dissolve the Safety in Society programme. The fact that these changes were not accompanied by identifiable research raises the question: on what basis were these decisions made? The response to this question was that the DHET advised the need to cut back on the electrical course, and SMT was responsible for dissolving or relocating Safety in Society programme.

The college council representative perceives the absence of local market research as an impediment to making education and training relevant, where curricula may be customized to the workplace requirements. Hence, he perceives the current practice as less effective in promoting the employability of the learner.

5.7.4d) Who ought to be the decision maker? That is, who ought to change the measure of success?

Campus-based and central office stakeholders felt the Senior Management Team (SMT) ought to be the key decision maker, and the SMT ought to consult with all relevant role players. Campus focus groups were particularly vocal about the campus manager being an important stakeholder to consult. The feeling that the SMT ought to have more decision making power reflects the underlying theme of the need for an accessible, localised managing unit as opposed to DHET, which represented an elusive, distant controlling force.

The need for collaborative work was emphasised by the Campus B focus group. The collaboration ought to include industries and businesses; a wider forum would enhance decision making. The inclusion of parent bodies, local communities, ward counsellors and civic organisations ought to be encouraged. All parties interviewed acknowledged that research ought to guide the decision makers, such that decision makers are compelled to examine research outputs before making decisions. The academic board in particular was identified as an important decision making body in dire need of research to make decisions. It was also emphasised that this board ought to nominate subcommittees to determine what needs researching, as it had the powers to do so.

The senior management focus group themselves, as well as council representatives, felt that the key decision makers ought to be the SMT, led by the Principal, provided that they be given

all the resources to perform. They also agreed that the role of the governing body ought to be an oversight role, addressing issues of governance, and not an operational role. The senior management focus group felt strongly, like most stakeholders, that the external stakeholders in the local environment ought to have greater involvement in the college, i.e. 'a slice of power'. The involvement of community and industries could be in the form of forums.

The college council stakeholder also reinforced the view that the SMT ought to be the key decision maker, together with the college council, bearing in mind that the college council will play an oversight role.

The view of the chairperson of the strategic planning committee is that the SMT, which includes Corporate and Financial Services, ought to take ownership of the process of strategic planning, notwithstanding that Academic Services may lead the strategic planning process. There is merit in the view that while the Academic Services lead the debate on what courses ought to be offered, Corporate and Financial Services are key to ensuring the creative and optimum use of staff and budgets *during* the planning process. Hence, it makes sense that all components of the SMT's simultaneous and joint involvement in the college strategic planning, ought to harmonise the disparate academic and corporate functions of the organisation and align the organisation to a common vision.

The SRC focus group was concerned about the immediacy of power; they would prefer the senior managers as the source of power that would be able to solve problems as soon as possible.

5.7.5a) What conditions for successful planning and implementation is controlled by the decision maker? That is, what resources does the decision maker control?

While the campus focus groups acknowledge that the SMT consults with them, they observe that the SMT sets the parameters, which, for the most part, emphasise student numbers. The campus focus groups are aware that the SMT is controlling the student numbers and courses, ensuring that student number targets are reached. The SMT themselves, declare that they are not able to control much of anything else. They consider themselves obliged to ensure that maximum student numbers are maintained to ensure sufficient subsidies, to safeguard staff employment and to realise the DHET mandate. The chairperson of strategic planning observes that 'in terms of resources, we survive with what we have. We sometimes don't even know

what we need'.

Key resources that the SMT control are the college operational and capital budgets, which represent about 37% of the total budget. 63% of the budget is for human resources, the payroll of which is controlled by DHET; the college recruits candidates as per DHET policies. It is further acknowledged that the SMT administers the screening and payout of student bursaries from the NSFAS budget allocation, liaises with industry and commerce, and assists with learner placement. The senior managers argue that while they may have some control of the administration of the NSFAS, it has been misconstrued by students as being some sort of support grant and entitlement. This is compounded by the conditions of the grants not being strictly adhered to and followed through. This resulted in reaching the wrong target market of students - those primarily not interested in educating themselves. The SMT see this as a hindrance to operations.

The representatives of the College Council recognize the stark limitations of the SMT. Since the transfer of power from college to DHET, the DHET now controls the bulk of the college finances. This places them as the key decision maker; inadvertently they control post provisioning, authorize all appointments and influence the programmes that ought to be offered. The role of the SMT is reduced to an operational budget, characterised by the activities such as paying the municipal bills and making stop-gap decisions (hiring of temporary staff, etc.). The representative of the college council further sees DHET as having 49 other colleges to lead, therefore its leadership would naturally be characterised by standardisation, using policies and procedures, further imposing tighter decision making.

The role of the SMT is enhanced by self-generated income by the college (not government subsidies), though not expansive. This gives the SMT greater autonomy over self-generated funds and the way such funds are spent, e.g. staffing, choice of programmes, setting up of infrastructure, etc.

5.7.5b) What ought to be the conditions (resources) for successful planning and implementation, that is controlled by the decision maker? That is, what resources should the decision maker control?

The Campus A focus group acknowledges that DHET subsidies are a significant, much-needed resource, but a thriving account borne of SETA funding and industry grants ought to also form

an important part of the college resources. There is merit in this argument, as captured in chapter two, where the FET Act clarifies that a role of the college ought to be the pursuit of funding. SETAs and partnerships with private and public enterprises are key to building funds. The WBE representative supports this possibility by reinforcing that the WBE unit is an example of a self-funded entity; DHET funds were not used to set up this unit.

The Campus A focus group also pointed out the need for the college to recruit and develop lecturers who have experience in industries, who will help the campuses align with industries, and serve them better. They also underscored the need for a focus on teaching and learning, implying a higher quality of expertise and training on the part of the lecturer, as well as a higher level of commitment by the learner to comply with basic requirements to enable quality teaching and learning.

The focus group of Campus B, on the other hand, drew attention to the fact that the decision maker (College SMT) ought to be in control of research information, as this information would assist them in making decisions and planning, which is currently not evident. Campus B viewed campus staff themselves as an important resource that had to be included in decision making. They preferred that the conditions for successful planning and implementation include the mandatory involvement of campus-based forums as a part of the gathering of information to inform planning.

The chairperson of the Strategic Planning Committee perceived ‘resources’ as intellectual capital, and emphasised the need for systems to be in place so people know where they fitted in, as well as an inclusive process for planning that could be referred to as a college process, not segmented such that it becomes a portfolio process. Implicit in this statement is the lack of policies or practices that unites the organisational components to a common goal. The SMT focus group echoed the perceptions of the resources as intellectual capital, and expressed the need for an effective research unit. This unit ought to conduct thorough local studies and analyses of the local environment, such that this information can be fed into college strategic planning. They prefer flexibility from DHET, such that DHET funds programmes aligned to local research.

The representative from industry, represented on the college council, reinforced the view that delegations of responsibilities need to be coupled with a fair level of financial autonomy. Hence, he recommended that the college Principal ought to have more control of the DHET

funds, lest he be resigned to performing as an administrator for the DHET.

The representative of the college council, within the Department of Labour, also emphasised the need to readjust the strategic plan to targets beyond the nationally required targets, which are politically motivated. The rationale for this was that some political targets were generally impractical to realise, but essential to attempt to attain as they ultimately fed into parliament, and they drew in the government subsidies required to maintain the organisation. He emphasised the need for the college to formulate and realise certain local attainable targets, to breed a level of local success, and be meaningful for the community that is being served.

5.7.6a). What conditions that impact on the external environment, does the decision maker not control?

LACK OF CONTROL OVER DECISION MAKING IN RELATION TO NSFAS

The Campus A focus group recognises that the determination of the amounts paid out by the NSFAS, as well as the timing of their payouts, is not controlled by the college. These payouts are controlled by NSFAS itself, while the amount allocated to NSFAS is determined by DHET (I refer to rich picture, figure 5-1). Campus A focus group, as well as the SMT focus group, are keenly aware that the absence of control of NSFAS by the college is acutely felt in student unrest and strikes when protesters aim their frustrations at the college leadership, whom they hold responsible for delayed payouts. The SMT concurs that they (the SMT) ought to have the resources to deal with the delays in the payment of students' financial aid, ideally. Implicit in this statement, is that the alternative is that NSFAS deals with all student financial aid matters in its entirety.

LACK OF CONTROL OF INFORMATION OR RESEARCH RELATED TO THE EXTERNAL ENVIRONMENT

The Campus B focus group felt the institution is not in control of information relating to the local external environment because the institution is not in control of research. The campus asserted that the institution did not have any credible local research, or any other credible research for that matter, to enable them to understand the environment, which is tantamount to a loss in control. They were adamant that if the college was not aware of what the external environment wants, then 'we might be wasting our time by educating for unemployment'.

LACK OF CONTROL DURING STUDENT UNRESTS AND LABOUR DISPUTES

The chairperson for strategic planning believes that there is a reasonable cause to perceive that a heavily politicised SRC affects the environment – politically aligned student bodies breed students who might be career politicians. The suspicion of managers and staff influencing student strikes was raised as worrisome, to the point that it has been a part of a DHET forensic audit.

The narrative reflected a situation beyond the control of the institution's leadership, as it seemed that nothing could prevent individuals with personal agendas, ambitions, or ideologies from using coercive, indirect force to destabilise college activities or undermine decisions. The narrative that staff instigates student unrest is also noteworthy.

On listening to these narratives from both central and campus interviewees, it becomes increasingly obvious that the protest actions of students and staff are wildcards. During these protests, the college stakeholders seem to understand the environment as a political melting pot, comprised of desperate 'students' seeking resources supposedly promised to them. They understand this melting pot to include students whose impoverished backgrounds make them vulnerable to radical political leadership, multiple political parties chasing after potential voters, and internal and external individuals leveraging power and jockeying for positions. During protest actions, the institution as a pathway to jobs and economic emancipation dulls, in favour of using the college as an instrument, political or other, to pursue immediate gratifications or perceived entitlements.

The reaction of student interviewees from the campuses reflects a frustration with college management for delays in bursary payouts, as well as a frustration with elusive student components that seem radical, especially those who destroy state property. Amidst a list of concerns, ranging from perceptions of racism, lack of transformation, to insufficient amenities, a notable point is that the students (in this case, the SRC focus group) are aware that the majority of students that complete qualifications at a TVET college do not easily enter the job market. It might account for, to some extent, why the student body lacks sensitivity of how they might be perceived by the external market forces. During the student protest action, there seems to be no dominant decision making parties, i.e. no stakeholder may be pin-pointed to be in control or be a key decision maker.

The representative of the chamber of commerce asserted that employers gather a negative impression of students emanating from institutions that have a reputation for destructive protest. This stymies such students' opportunities to access jobs. He mentioned that students ought to be aware that industry and commerce value attitudes as much as they require qualifications and skills.

LACK OF CONTROL OF PROGRAMME SUBSIDIES AND POST PROVISIONING NORMS

The SMT focus group reflected on the absence of control of the Principal over a series of important aspects. The Principal has no control of the ministerial approved programmes nor the state subsidies accompanied by each programme. If the college strays from state programmes, it would have to find the additional funding to support new programmes. The SMT interviewees explain that the programmes do not have a district or a regional focus; the DHET's subsidy weighting does not take the level of local demand into account. Further, the SMT has no control of the DHET's Post Provisioning Norms, which impacts on the distribution of educator, managerial and administrative posts in the college. Such distributions have to take into account the curriculum dynamics, lecturer to class size ratios and the need for equitable spans of control, where managerial tiers are installed in the institution to ensure control and coordination. Unfortunately, the level of control of such allocations is rudimentary, where the SMT is involved in optimally and creatively using the staff budgets that have been allocated. To worsen matters, the DHET, and previously, the DoE, has been in the process of developing a PPN policy for many years, the recent result being a provisional policy that is experimentally used. There has not been a PPN policy for the sector since the FET Act was promulgated in 1994. The result is the lack of coordination of classroom and curriculum issues with human resource provisioning and staffing budgets, of which the college has little control. Hence the college (SMT) has to align diminished budgets against PPNs that are insufficient for teaching and learning to be optimally resourced.

LACK OF CONTROL OF QUALITY GENERAL EDUCATION AND TRAINING, ITS LEGACIES, AND SCHOOLS' SELF-PRESERVING RETENTION OF PUPILS

The SMT focus group points out that they have no control of the legacies that have blighted education and training in TVET colleges; the poor literacy and numeracy rate is expressed as a 'conveyer belt problem'. The challenges of the school system, i.e. basic education, with its history of dysfunctionality, is inherited by higher education, resulting in poor quality of

students. The merits of this argument may be gleaned from the historical account of chapter two where the disparities of Apartheid education and its impact were discussed. The fact that schools are able to influence their student base in an attempt to retain their more progressive pupils, worsens the perception of TVET colleges being last outposts.

5.7.6b) With regard to the external environment, what conditions ought the decision maker not be able to control?

RESEARCH AS A PART OF THE DECISION MAKING ENVIRONMENT

The Campus B focus group emphasises the need for the institution to be in control of research into the local environment, and the control of the use of the research to inform programme offerings and improve job placement opportunities for the college. This view, from another perspective, is supported by the College Council representative, who perceives curricula as crucial to the college. He thinks that the 'employer' (implying DHET) should not control the curricula; instead, DHET ought to allow curricula at colleges to be determined by 'environmental scanning', implying research. College courses ought to 'be informed by the environment in which they operate'.

The SMT focus group, on the other hand, feel that there ought to be a regional focus (it is not clear who should drive this), implying that the courses that are subsidised ought to be determined (weighted and costed) against the demands of the local region. While the perspectives of the SMT focus group differs with the Campus B and College Council focus group in their implementation strategy, the end result that they envisage is similar, i.e. the subsidised programmes ought to take into account the local environment. While the campus and college council representative see this function as a college competence, the SMT focus group suggests that, irrespective of whom the competence resides with, the regional conditions would have to be taken into account. This view is open to the existence of a DHET regional offshoot with a research component that deals with the local region.

CURRICULA REVIEWS, DESIGN AND ADAPTABILITY AS A PART OF THE DECISION MAKING ENVIRONMENT

The SMT focus group also mentioned the need for a review of the curricula, especially the NCV

curricula, and review of the paper chase in attaining qualifications, i.e. the obsession with paper qualifications rather than the demonstration of competence via practical work. Implicit in their concerns is the irony of a student who predominantly seeks practical skills but is exposed to a theory-based top-heavy curriculum. They point out that learners completing Level 4 ought to be ready to be up-skilled into short apprenticeship programmes, but recent attempts by industries to recruit the college learners has shown the stark lack of basic vocational skills. This view is consistent with the responses of students interviewed, who felt that they did too much of theory and very little practical work. This is may seem especially peculiar for the NCV courses, which were designed to integrate theory with practice. Lecturers within the Campus B focus group concurred, citing unreasonably difficult subjects when compared to the high school curricula. However, lecturers were of the opinion that the curricula were not as much a problem as the unavailability of resources and time to conduct practical sessions. While they are aware of existing discussions around the review of the qualifications or the curricula, they cannot account for any progress in such initiatives. The lecturers felt that the practitioners at the heart of operations, i.e. lecturers, ought to be able to influence decisions around curricula. At the very least, the DHET ought to listen to them and act timeously before the local communities and stakeholders from industry and commerce lose confidence in the college programmes.

Within a similar context, the SMT focus group also laments the fact that the NCV, which is equivalent in status to the NCS (National Certificate: Schools), has greater or more rigorous exit barriers per level. This reinforces the Campus B focus group's concerns that students who fail subjects in preceding levels delay their certification by a year each time. Ultimately, the notion that the vocational equivalent of the school system is a more arduous path than the schooling system, makes vocational education intimidating and unattractive. The SMT focus group would like to see DHET as the decision maker, taking stock of this curricula related anomaly, which has the capacity of crippling the entire qualification, as well as having wider economic repercussions.

AUTONOMY OVER BUDGETS AS A PART OF THE DECISION MAKING ENVIRONMENT

The Campus A focus group, the representative of Industry and the WBE representative felt that the decision maker ought to have greater autonomy over budgets, esp. NSFAS. Implicit in this

is the need for custodianship of the NSFAS budget; the interviewees consider such decisions would lead to a greater level of stability of the college. It could promote a positive image of the college with local industries and business, and influence potential employers to employ students. The thrust of this thinking was that the responsibility for students' bursary payments would shift locally to the college. Thus, holding one party accountable, enabling a greater likelihood of delivery, and attaining greater control over strikes related to untimely bursary payouts. These thoughts reflect the feeling of the focus groups that NSFAS administration lacks efficiency, and that the mixed roles of the college and NSFAS administration with regard to bursaries, obscure ownership.

The Campus A focus group favoured the autonomy of the SMT to use DHET or state budgets for short skills programmes and overtime. The campus perceived that short skills programmes were considered relevant to the local community, based on their past experience with the Community Outreach Programme (COP). Their view has been that the rigid adherence to the subsidising of short programmes only if they were accredited, marginalised local communities who needed skills for immediate job-seeking, and were too poor to pay for such skills.

An overwhelming view of campuses was that the DHET ought to devolve more decision making powers and concomitant budgets to the colleges, especially to the SMT.

5.7.7a). Who is the expert, or who is/are involved as planners with respect to understanding the local environment?

The Campus B focus group insists that no person or entity on campus may be construed as an expert who is involved in planning in relation to the environment. They comment with some degree of irony that DHET is the expert as they prescribe which courses need 'cutting off'. Campus B questions the legitimacy of DHET as experts in understanding their local conditions. They further confirm that the central office of the college leads the college strategic planning, and that expertise in research is hence implied. However, there exists no evidence of research activities by the central office.

While the WBE representative does negate this view, he reflects upon the Academic board as a body that would be involved in research work through its subcommittees. However, he is not aware of this actually happening. At this stage it is significant that the FET Act is supportive of

the academic board forming any committee that may assist it to accomplish its academic-related activities, including a research unit.

The Campus A focus group feels that the central office is the expert planner as they seem to have all the structures for planning, i.e. an academic department as well as a marketing department. This view is reinforced by the college council representative, who assumes that the Deputy Manager - Academic Services is the expert, not the campus managers, as the central office academic unit has different departments from which to draw the necessary expertise to drive academic planning. This assumption is clearly an indication of what he construes as an ideal (what ought to be). Implicit in this statement is that the campus is seen as an operational or delivery site rather than a strategic think tank. The council representative's incertitude itself reflects the strong possibility that structures dealing with the academic unit's research are not evident, as the college council, of which he is a part of, would typically ratify such structures or plans of the college.

The senior management focus group was forthright that there are no experts involved in relation to understanding the external environment. This was in keeping with the view of the strategic planning chairperson. The senior managers reflected on the idea that campus managers may be construed as experts although they might lack the necessary skills to be considered such. The chairperson of the strategic planning committee regards them as 'critical' to strategic planning. They are a part of strategic planning and are perceived to be experts as they are given the task of finding out what is required in their external environment, after a strategic management meeting ('plenary of stakeholders'). The senior managers confirm that the campus managers are 'given two weeks to engage their environment and get back with their input.' The two-week timeline is subject to the timelines of DHET. The chairperson of the strategic committee adds that there are other portfolio areas also engaged to provide information including the WBE. The SMT expects the campus managers to consult with students and staff, and examine their campus throughput rates, etc. The SMT focus group concurs that ultimately no research is done. They are 'not happy' with the information that the Campus Managers return with, but given the limited time frames to deliver the strategic plan, and the lack of capacity and existing research available, the feedback is accepted. This view is more poignantly expressed by the chairperson of the strategic planning committee: 'without knowing what the needs are, we are responding to perceptions rather than planning for what

is actual.' The campus-based interviewees themselves, many of whom are part of the senior campus management team, or campus managers themselves, express their perceptions of the environmental scanning of the strategic plan as a paper exercise, devoid of the necessary expertise and sufficient timeframes.

5.7.7b) Who ought to be the expert, or who ought to be the planner/s with respect to understanding the external environment?

The Campus B focus group mentioned that the college ought to have a research component, at least a research manager, such that credible local research may be conducted, which takes into account campus-specific issues and the communities and related industries.

The Campus A focus group shared the view that they (the campuses) ought to be the expert planners, albeit impractical owing to their workloads on campus. This statement, notwithstanding any debate concerning its practicality, served to demonstrate their desire to be involved.

The Campus B focus group added that while expertise should exist in the form of a college researcher, the campus needs to be consulted as they have local situational knowledge which can add expert value – knowledge through their experience of the local area. Expertise should be able to customise for local conditions, not one size fits all. In this way, the Campus B focus group was no different to the Campus A focus group in their need to be involved, however they took into account the reality of their limitations as a campus engaged in operational activities.

The WBE representative reinforced this view with an anecdote: he reflected on the recent failure of the college to obtain Recognition of Prior Learning for its NCV Level 4 students for artisan training as there had been a huge gap between the students' skills and industries' needs. He reiterated that if the research expertise existed within the college, the industry requirements of the local companies would have been researched and communicated with relevant stakeholders, then integrated into the student's learning programme, so that the skills gaps would have been closed.

The chairperson of the strategic planning committee reinforced the perspective that the college ought to employ a researcher to guarantee expertise. However, she was firm on the

view that this researcher should not be located within any department or portfolio area; he/she should be independent, not influenced by internal stakeholders.

The representative of the college council takes this perspective to another level by suggesting that the researcher ought to be an external party within industry, rather than an educator. It reinforces the chairperson of the strategic planning committee's proposal to maintain the independence of the research component. However, she further explains that such a person or unit ought to not only conduct research independently, but be able to 'scan the environment continuously', internalising the ongoing developments and demands of industry, monitoring the changes, and keeping abreast of global developments and technology.

The representative of the college council's view of scanning continuously is consistent with the best practices of selected American higher education institutions as discussed in chapter three. The University of Southern Indiana (USI) (Hanka et al., 2015), has shown the importance of engaging the environment continuously, so as to confidently base decisions on trends observed over a period and interpret changes with greater accuracy. The representative's view of scanning both locally and globally also resonates with the best practices of environmental scanning, espoused by Kotler (2003) (I refer to figure 3-4 of chapter three) and Munive-Hernandez et al. (2004) (figure 3-5 of chapter three).

The senior managers take a broader view: they feel that expertise ought to be a collaborative process between college managers, campus management teams, senior managers, college council and DHET. This collaboration may be achieved by formalising a local research unit that takes inputs from DoL, the local Municipalities, the community forums, local government, industry and commerce. These inputs need to be digested and internalised. Strategic planning can take this forward, with senior managers providing strategic leadership. Then only can niche programmes and campuses be motivated confidently, and be regulated by supply and demand. Education and training may be aligned not only for employment but self-employment.

The senior managers added that forums from community, industry and commerce ought to meet cyclically with the college, and impacts ought to be reviewed after each meeting. Importantly, the 'engagement of expertise ought to be an ongoing exercise, not a two-week event.' This vision is in keeping with those of two external stakeholders: the representatives of industry and chamber of commerce. The former reinforced the need to amalgamate all the

best practices of information gathering in the college to a central forum, i.e. the college council or a similar high-powered team, while the latter expressed the need to include a review of the local municipal plans around which the college ought to plan strategies, as this is a substantial area of work.

The above proposal of the SMT and external stakeholders regarding the pooling of expertise is resonant with the work of USI (Hanka et al., 2015) where multiple external and internal stakeholders form part of a network of expertise that collate and critically examine information derived within the institution and from the environment. It presupposes a philosophy that expertise lies in a wider range of stakeholders, which is reasonably sound given the work of Hanka et al. (2015). However, the issue of who collates information from multiple stakeholders ('experts') and leads its critical analysis and synthesis remains unattended. In this regard, perhaps the earlier response of creating a formal research unit or hiring a researcher, as posed by the Campus B focus group, WBE representative and Chairperson of the strategic planning committee, might warrant some consideration.

The third meeting with the campuses, wherein the campuses received feedback of salient information derived from my interviews with central office staff, yielded a more considered approach. Campus B proposed the extension of the role of the central curriculum unit to include a research orientation, and be a part of the research team, with their curriculum staff being predominantly decentralised, spending two-thirds of their services on selected campuses.

5.7.8a) What expertise is consulted, i.e. what counts as relevant knowledge in understanding the local environment?

As expressed earlier, none of the interviewees were convinced of the existence of any substantial expertise in understanding the local environment hence their perception of the value of any current environmental information gathered is negative. Even when decisions were taken by DHET or senior managers to limit or relocate programmes, research based documentation to support such initiatives were not forthcoming. It remains superfluous to challenge the interviewees' perceptions, as senior role players or perceived decision makers themselves recognise the foundation of expert work of understanding the external environment as flimsy and at times, with forthright criticism.

The interview led to repetitions that neither the marketing nor the WBE unit engages in research activities; i.e. the marketing department creates awareness of the product only and the WBE deals with learner placement.

The sector skills information is a source of expertise; however, its use as credible research was placed under scrutiny in the discussion with the DoL representative, who pointed out its pitfalls as exclusive research material, but more significantly critiqued its poor fit as local research. His response is supportive of the scholarly insights of Lee (2004), Dougherty and Tan (1997); Shorten (2004) and more recently, Turner et al. (2013), as reflected in chapter three. He, however, proffered practical insights into the practice of levy administration, an affirmation of poor performance by SETAs in general (the minister has closed or merged a few to raise efficiencies), and revealed the difficulties of getting employers to comply with the SDLA owing to many employers' ignorance of tapping into the incentive. He reinforces that there is a perception by many employers that the skills levy is merely a tax, bolstered by the fact that the submission of the WSP by the employer is not compulsory; only the payment of the Skills Development levy is. He expressed his dilemma regarding the accuracy and effectiveness of SETAs sector skills information for local research, as SETAs are generally located in the metropolitan areas. He therefore expressed scepticism of a reliable base of Sector Skills information emerging in a remote area such as Newcastle-Madadeni. Notwithstanding, it was agreed that the rationale for using the Sector Skill Plan as an incentive for engaging business in training activities, was primary. The idea of regarding its outcomes as research material belied typical research processes of information gathering.

5.7.8b) What expertise ought to be consulted, i.e. what ought to count as relevant knowledge?

Both campus focus groups deem the following to be expertise of which relevant stakeholders ought to be consulted: municipalities, Chamber of Commerce, government departments, industries in the surrounding area, schools in the surrounding areas, and the type of students available (alluding to an analysis of socio-economic conditions; namely Living Standards Measures). They also perceive the role of the researcher to extend to an internal analysis, by suggesting a look at internal capacities and resources, in keeping with the classic internal analysis of strategic planning (Kotler, 2003: 102). Underpinning this, the Campus B focus group

deemed it essential that a researcher should be employed/engaged, someone who is contracted to conduct, collate and analyse local research. The representative of the College Council reinforced this view, including the view that the researcher or expert ought to have some background in industry or business, beyond being an educator.

The Campus A focus group pursued a similar outcome, i.e. the assimilation and interpretation of information, but their approach lay in placing emphasis on the use of subcommittees. Implicit in this approach is the use of the academic board to reconcile the various expert outputs from the subcommittees. The representative from industry suggested that the college council take responsibility for ensuring that the responses are strategically examined.

The chairperson of the Strategic Planning Committee was expressly clear that research based knowledge (primary sources) ought to exist. She also mentioned that the legislative documents ought to be taken into account, i.e. White Paper for Post School Education, Skills Development Act, TVET Amended Act and Sector Skills Plans.

5.7.9a) Who or what is the guarantor of success in relation to understanding the external environment?

i.e. where do those involved seek some guarantee that improvement will be achieved in relation to understanding the external environment?

5.7.9b) Who or what ought to be the guarantor of success in relation to understanding the external environment?

The interviewees were unable, for the most part, to give a clear answer to the 'is' question, which in itself, initially allowed me to suggest that this could indicate the absence of traction towards understanding the external environment. Or it may reflect a lack of clarity in the way the question was pitched. Retrospectively, the question was pitched again as 'what is the false guarantor attributes of success in understanding the external environment.' The response to this from the WBE unit, the Senior Managers, and Campus teams, was the perception that DHET provides legitimate research on which decisions are based, and the perception that information derived from Sector Skills planning is definitive as local research. These are considered false guarantees.

All interviewees support the idea of there ought to be legitimate research. On the one hand, the majority of stakeholders favour an internalisation of the responsibility of deriving relevant local research, placing the guarantee of such activities in the hands of the SMT. Naturally, the support of the SMT as guarantor rather than DHET, especially by the campuses, is borne of internal stakeholders' ongoing need of locating accountability closer to the source of their challenges. The SMT, ironically, would prefer the guarantor to be the college council. The college council representative was convinced that there is no guarantor and will not be a definitive guarantor as this is impractical, given the dynamics; the most that can be done is the creation of conducive environments. This might justify the chairperson of the strategic planning committee in referring to a structure, i.e. a monitoring and evaluation forum consisting of key role players as a guarantor, rather than an individual.

5.7.10a) Who are the witnesses; who are those affected but not involved?

5.7.10b) Who ought to be the witnesses; who ought to be those affected but not involved?

Both campuses reflected upon parents being affected but not involved. More significantly, they are not represented on any forum, nor given any traditional feedback roles such as invitees to parent meetings, etc. Both Campus A and B refer to the need for parents' forums with elected stakeholders at different levels, to make them legitimate stakeholders.

The central office interviewees raised other stakeholders who were affected and required involvement: NGOs representing NEETS Stakeholders (stakeholders Not Employed or Engaged in Training and Development), as well as civic organisations. Campuses raise the importance of the informal role of civic organisations such as SANCA and Drug Abuse bodies, and the need for a forum that represents these bodies.

The Campus B focus group as well as the chairperson of the strategic planning committee also referred to industries and business being marginalised, emphasising the point that there is no significant engagement with industries. The level of engagement of business and industries is unreasonably confined to a single stakeholder, or perceived as such, on the College Council.

The SMT interviewees explained that the council is appointed by the minister; 5 people from all walks of life are appointed, with provision for one donor. ArcelorMittal Steel from the local iron and steel industry is represented on the council. This is the single industry representative.

The representative of the college council voiced the need for focused forums that deal with industry and business, i.e. a bigger stake in the college with greater levels of engagement ('constantly engaging'), to influence the absorption of students into those institutions. The *Sakekamer* and Chamber of Commerce are formal platforms that need to be drawn into an integrated plan of continuous scanning. Through a series of networks, witnesses ought to become participants, guided by formal structures and policies. Both the SMT focus group and council representative indicated the need to deeply commit to enlarging the role of industry and business, with emphasis on the recruitment of 'strong voices'.

The need to engage other government departments was raised, especially the Department of Labour, which is potentially an important role player. The DoL perceive themselves as a recruiter of students from time to time; they assist students to obtain jobs as they register learners for employment and link them to employers.

The use of partnership agreements, Memorandums of Understanding (MOUs), ought to be explored where necessary as a means to bring on board further stakeholders, and capitalise on existing resources and expertise beyond the capacities of the college. Beyond stakeholder meetings, the formalising of events, seminars, and exchanges of expertise, would assist in getting parties on board.

Campus B suggested the proactive drafting of political parties and civic organisations, who are currently not formally drafted into any college structure, yet play pivotal informal roles.

5.7.11a) What is the prevailing world view related to the college's understanding of the local environment?

5.7.11b) What ought to be the world view related to the college's understanding of the local environment?

All interviewees, from campus and the central office perceived the college as bureaucratic, administrative and 'self-absorbed'. The clinical nature of a machine type culture was captured by Campus A as 'product in – product out'. The college council representative described the relationship between the college and external environment as 'non-aligned' or 'disjointed'. The senior management focus group concurred, mentioning the relationship as 'informal and unstructured' but further ventured to describe the relationship of the college with its external environment as 'aloof'.

The Campus A focus group commented that the indifference was not restricted to administrative offices and managers, but its symptoms were evident in classrooms and learners. Learners were seen to be motivated by the bursary funding rather than education, evident in learner attendance. High educator: learner ratios in classrooms emphasise the bureaucratic need for growth, and this impacts on lecturers' attitudes and commitment.

The chairperson of the strategic planning committee likened the college to an organism which is experiencing the pains of growth. This suggests a focus that is internal, whereas she would prefer an organisational orientation of global competitiveness. The SMT focus group and external stakeholders were convinced that the college ought to be responsive, creating an integrated and relevant relationship with the external environment. The WBE representative was firm on a vision of student-centredness; 'invest in people'. The Campus B focus group emphasised the need for an interactive, involved orientation where the college extended into communities with the mindset for solving problems.

5.8 SUMMARY OF RECURRING THEMES

Prevailing Themes	Clarity or Explanation
1. Absence of formal research or scanning practices related to the local environment.	Evident in absence of structural activities or documentation related to information gathering. Sector Skills Information that might be sourced by the college directly or indirectly, is justifiably perceived as unreliable, especially locally.
2. The responsibility of understanding the environment seems to be devolved to other layers or units of the organisation – it appears that there exists a lack of ownership.	Perceptions that someone or some entity is taking care of understanding the local environment, abound; campuses believe it is dealt with by the central office, some central stakeholders believe it might be marketing or WBE.
3. The apparent misalignment of strategic planning, curricula, and resources (including HR) with key institutions of the environment, i.e. industry, commerce, local economic development, civic organisations, communities, etc.	Strategic planning information gathering is done in less than a week, curricula other than the DHET approved courses are not funded (skills courses included) by DHET, the courses are not adapted to target markets, efforts are made to not disrupt staff teaching patterns (planning seems teacher-centric), and the maintaining of student numbers and programmes seems to override other objectives.
4. The bureaucratic nature of business/services and the interplay of formal and informal power in delivering services.	The preoccupation with bolstering numbers and pursuing narrow interests rivals the pursuit of quality, esp. in the selection of courses, tailored to environmental needs. The SRC prioritises redressing the delivery of bursaries, and perceive the quality of

	education and training as inferior, leading to poor employability. Employee organised labour as well as the SRC wield informal power that impacts heavily on how senior managers make decisions.
5. The college student market is dominantly from the GET (high school) sector, and is thus marketed by the college competitors (esp. for NCV programmes), resulting in the college perceived as a 'dumping ground' rather than an institution of choice.	The TVET student market is perceived as either school dropouts, or the 'last outpost', having been denied by universities, or are driven to the college by the prospect of securing NSFAS bursaries for subsistence or recreation, or because they are pushed towards the college by the high schools, who are ironically Majuba College's most influential marketers.
6. There exist very few formal relationships (partnerships, forums, etc.) between the college and institutions within the external environment.	There are very few formal partnerships or MOUs related to the campuses reviewed, or even the presence of the college on industry boards, etc. The structural exclusion of parents is glaring – parents do not feature on forums, nor are there parent meetings and feedback of students' performance to parents. The scope and strength in the understanding of the local environment, also lies in formal structures that ought to link colleges to the environment, such as partnerships, MOUs or even committees and task teams.
7. The lack of relevance and/or flexibility of curricula, as well as the anomalies with the NCV course compared to its GET counterpart (i.e. the National Senior Certificate), are recurring issues.	The campuses, as well as the WBE, unit have emphasised the pitfalls of the static nature of the curricula, which dissuades businesses and industries from forming links with the college/campuses and funding students. It is perceived that the lack of adequate practical training in the NCV course, albeit theoretically outlined in the syllabi, retards the development of students' skills and employability. It is claimed that the emphasis on theoretical content and stringent promotional requirements between levels, adds to poor throughput and certification rates. Skills courses claimed to be demanded by the community, are not offered as they are not funded. Funds cannot easily be obtained from other sources, e.g. SETAs, as the necessary groundwork for accreditation is not done, and has not been pursued for many years.

5.9 CONCLUSION

This chapter reflects how stakeholders were engaged using approaches and methodologies outlined in chapter four, and the essence of the narratives generated. Two sets of Campus-based focus groups were engaged separately and the question: 'To what extent does Majuba

College understand its environment?' was posed. A rich picture – essentially an SSM tool - was created, enhanced by a story telling approach. This set the scene for a further engagement with the campuses, where CSH was employed, using a set of adapted questions in the 'is' and 'ought' mode. This led to a more robust, critical account of the various issues. This process was continued with other key stakeholders including key central office personnel, senior managers, college council members and key stakeholders from the environment including business and commerce. The final result was a set of recurring and significant themes, distilled from the various narratives.

While the above responses are fairly complex, owing to wide-ranging perceptions and a diversity of role players, they also reflect themes that seem repetitive. However, those themes, though repeated, are in many cases viewed from different perspectives with varied insights. Their repetitiveness in various contexts in this work was important to document, as this contributed to their selection ahead of other themes.

It needs to be noted that the narratives and varied responses create a richer picture that includes perspectives that might not otherwise have been considered. Such inclusivity adds to the holistic texture of the findings, and tends to broaden one's understanding. However, the differing viewpoints derived from the CSH 'is' and 'ought' questions also begs the need to discriminate and identify the better arguments, which is the principal benefit of Ulrich's work.

In order to answer the question 'to what extent does Majuba TVET College have a fair understanding of its environment?' with the least subjectivity, it is important to determine what constitutes a fair understanding of a college's environment, as some reference point. Chapter three provides a theoretical overview of how environments, specifically educational environments, are scanned and understood. The review of the literature, where applicable, against the findings in this chapter, would provide a reference for critically examining the above findings against a wider milieu. Hence, the scene is set to re-examine the findings critically, using a wider angled perspective, zooming out of the college environment, and even out of the national higher education landscape.

In doing so, it would be unrealistic to tackle every facet of the findings in this chapter, in a pursuit of further investigation and improvement. The most relevant strands that seek to answer the question: 'to what extent does the Majuba College fairly understands its environment?' would be pursued.

6. CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTORY REMARKS

This chapter aims to determine the extent to which Majuba TVET College understands its local environment, in the context of how educational or business environments are reasonably understood. This presupposes the value of reflecting upon current literature and practices, against which one may compare the college's understanding of its environment. In effect, the prevailing themes relating to the way in which Majuba College understands its local environment as gleaned from chapter five, will be viewed against the contemporary understanding of business and educational environments, and the theoretical underpinnings of scanning practices.

In the process of critically viewing the identified themes at the conclusion of chapter five, against practices and theories related to the environment, this chapter will further seek to make recommendations to improve problematic situations that impact on the college's understanding of the local environment. The chapter will also give insight into arising research work that may be pursued.

While recurring individual themes have been identified at the end of chapter five to obtain a handle on the problematic situations, it is important to recognise the themes as integrated, and parts of a complex whole. Therefore the critical review of the themes that will follow will not adopt a linear format.

6.2 ENVIRONMENTAL SCANNING PRACTICES AT MAJUBA TVET COLLEGE IN RELATION TO THE THEORY AND PRACTICES OF ENVIRONMENTAL SCANNING

The lack of systems or structural activities within Majuba College (this includes its campuses) relating to scanning and/or researching the local environment, is evident from the findings in chapter five.

The impact of structure on scanning practices is deliberated in chapter three, wherein the work of Liu (1998a), Du Toit (2016), Milliken (1990) and Fabbe-Costes et al. (2014), were

discussed. They emphasise the need for 'strategic scanning', the identification of key trends, and 'pre-attentive monitoring', respectively. The thrust of their work was to develop a vigilance for surveillance of the environment to develop ways to understand it and imagine what might be required in the future. Figure 3-1 of chapter three, shows the holistic interpretation of the internal-external environment of an organisation, consolidated from Liu (1998a), Grundy (2006), Gupta (2013) and Jackson (2003). It depicts the feedback from the environment which informs the inputs (in this case, students, subsidies, educators, infrastructure, policies, etc.). It reflects the collation of internal and external information, i.e. the task or industry environment, as well as the remote environments (political, legal, economic, environmental, social and technological), that inform the planning of an organisation. In Majuba College's case, the task environment would include community organisations that might serve public interests. While the college maintains a local or regional focus, it will rely on secondary sources to understand the remote environment, which has the capacity of becoming local challenges. Ultimately, this model underscores the necessity for an organisation, including a public college, to constantly match its resources to the needs of the task and remote external environments.

The findings in chapter five reveal that Majuba College has existing structures that attempt to match its resources to its environments. This is evident in its committees, viz. its strategic planning committee, which traverses through a strategic planning process that is somewhat similar to that outlined by Kotler (2003: 102). Although the college's strategic planning committee delegates the collation of environmental information from campuses via campus managers over a short duration, this hardly constitutes a coherent structure. Nor does it lead to comprehensive scanning or research work that assists in revealing education and training gaps in the local environment.

6.2.1 THE CONTRIBUTION OF MAJUBA COLLEGE'S EXTERNAL ANALYSIS ON ITS STRATEGIC PLANNING PROCESS

In chapter three, it has been amply discussed that Kotler's depiction of the inextricable relationship between strategic management and the external analysis of an organisation (Kotler, 2003: 102), had long progressed beyond its theoretical foundation, and is a basic model in the business world. The significance of the external environment on strategy is exemplified in the Munive-Hernandez et al. (2004) model of stakeholders and role players as

outlined in figure 3-5 in chapter three. The layered impact of environmental influences was illustrated in this figure, ranging from the internal environment, to the micro and the macro environments. The influences of these environments are critical when viewed in terms of opportunities or threats against the strengths and weaknesses of the college, during the SWOT analysis that is conducted as an essential part of strategic planning. Figure 3-6 reinforces the impact of this analysis against the corporate objectives and mission of organisations, reinforcing that the external analysis is an integral part of moulding an organisation into what it is by influencing what it does.

While it might be argued that the college does, structurally, have a strategic planning process and stringent related targets which projects into future needs, it is evident that the college's strategic planning lacks a clearly conceived environmental scanning process.

The argument that the college adopts a bureaucratic approach in administering such planning, its objectives focused on completing paperwork, is best supported by the fact that the environmental information for the college's strategic planning is collated within a week, and draws upon anecdotal, unstructured information. The compilation of a strategic plan is inescapable, as the concluding of a strategic plan is a requirement by DHET for its allocation of a college budget. The narratives in chapter five create the impression that the pursuit of the college budget is the overriding motivation for engaging in an external analysis for strategic planning as the findings repeatedly reflect the college's approach to understanding its environment as poor. This is evident in its focus on increasing student numbers rather than preparing students for segments of the market through a set of customised programmes.

6.2.2 THE COMPARISON OF MAJUBA COLLEGE AS A MARKET-FOCUSED VERSUS PRODUCT-FOCUSED ORGANISATION

The distinction between a product-focused versus market-focused approach is exemplified by figure 3-3a and 3-3b of chapter three, where Kotler's selling and marketing concept models (Kotler, 2003: 20) had been adapted to the TVET context. It is evident that the college's approach is more resonant with Kotler's selling rather than marketing concept. The typical selling environment proposes the development of a set of curricula (NCV and NaTED courses with fixed syllabi), the advertising and promotion of the courses, recruitment of learners as per enrolment targets, including the matching of available staff in respective fields, available

curricula, and other resources. Success in a corporate selling environment would be measured by volumes of sales and profits; in this case, it is measured in enrolment figures and pass rates or certification rates.

Kotler's marketing concept (figure 3-2b), on the other hand, advocates the analysis of labour market needs, the profiling of the student market against those needs, the customising of programmes and resources, and success is realised through learner placements, and the satisfaction of the markets (industry, commerce, SMMEs, civic organisations, local community forums, etc.).

It was the opinion of almost all interviewees that local environmental scanning (at times referred to as 'investigation into the environment') ought to lead to the development of relevant courses and greater placement of students. In effect, the interviewees recognised that environmental feedback through a scanning orientation gave an indication of what the market needs or wants, which should lead to internal operational changes within the college, and that this was construed as productive. This thinking is congruent with the work of Babatunde & Adebisi (2012), who concluded that 'strategic scanning' led to an increase in productivity. Hence, the college's keen attention to completing strategic planning in contrast to its inattentiveness to sustained environmental scanning (a key component of strategy), presents an anomaly that ought to be further explored.

6.3 MAJUBA COLLEGE'S SCANNING PRACTICES IN CONTEXT

Babatunde & Adebisi (2012) drew upon the work of Kazmi (2008) who differentiated scanning into three modes, asserting that the extent of success is dependent on the mode of scanning selected by the organisation. Kazmi identified scanning as either ad-hoc, regular, or continuous.

These modes bear traces of similarity to the approaches of the college. The current mode of scanning adopted by Majuba TVET College straddles between ad-hoc and regular scanning. It was noted that the college's operational planning seeks environmental information which occurs on a regular basis (in the third or fourth term annually); such plans are deliberated and compiled within a month, with an absence of structured scanning practices. To a certain extent, scanning has justifiably been implied as ad-hoc by most participants of the research, as it seemed reactive. As though the scanning was a part of an administrative requirement that

had to be expedited and eliminated from a checklist, rather than a structured and sustained information gathering activity.

6.4 RECOMMENDATION OF CONTINUOUS SCANNING TO COUNTER COMPLEXITY, FOR MAJUBA COLLEGE

The preceding account alludes to the need for a more sustained and formal process of environmental scanning; in chapter five the interviewees' views of research being 'insufficient' and 'the lack of credible research' was accompanied by the need to 'align to the needs of the local communities and industries'. The interviewees have different perceptions of what constituted ongoing research or gathering of information from the environment. Some perceived scanning as a quantitative process where stakeholders such as industries needed to respond to client survey instruments while others viewed scanning as an act of building relationships with organisations while trying to understand their needs.

The principle of continuous scanning, as espoused by Fabbe-Costes et al. (2014: 680) and supported by Babatunde & Adebisi (2012), incorporates both perceptions. Continuous scanning is construed as scanning to accumulate both factual and subjective information, gleaned through formal market research programmes and scenario planning exercises, yet also through casual conversations or experiences with clients. It is a form of 'continuous learning' (Choo, 2001: 2), where information is discussed, debated and re-modelled continuously, in an effort to constantly revise and enhance understanding. Liu (1998a: 309) considers this an appropriate base for *strategic thinking*. She further mentions that a continuous supply of rich information that is constantly processed, is advantageous in a complex environment, where environmental scans are at risk of being obsolete quickly, and confusion tends to reign in complexity (signals are weak, spurious and sometimes conflicting).

Hence, interviewees' recommendations which reflect the need for multiple modes of information gathering, are reasonable. The subsequent recommendations of a structural model that forces interaction are justified, such as the need for industry boards, cross-disciplinary committees, acquiring seats on the surrounding school governing bodies, and MOUs with government entities and surrounding industries. This mindset is prevalent in the work of Choo (2001: 103) who asserts that the strength of environmental scanning materialises in the number of contacts and alliances created.

6.5 DEALING WITH THE COLLEGE ENVIRONMENT'S COMPLEXITY BY USING COMPLEMENTARY APPROACHES: BROAD AND FOCUSED

The complexity of the TVET environment, prevalent in the work of Hardman (2013) and elaborated with reference to Majuba College in chapter two, is reinforced in the findings of chapter five. They confirm the multiplicity of perspectives and objectives, as well as various stakeholder types, related to Majuba College. Such an environment, according to Liu (1998a: 299) may result in confusing signals from the environment. Hence she recommends a dual strategy: capture a broad view to identify the various conditions that exist and then prioritise the areas in the environment that would lend itself to a more focused approach. This could imply that the college conducts and analyses broad-based macro scanning through secondary sources, leading to more localised scanning through primary sources including local surveys and interactions.

6.6 IDENTIFYING THE LEADERSHIP CHALLENGE IN THE INTERNAL-EXTERNAL DISCONNECT OF MAJUBA COLLEGE

While the research question had an external focus, the findings revealed an internal environment of disconnect, confusion and misinterpretation. This is evident in instances such as campus focus groups being unaware of the roles of the WBE. The campus group distances itself from the marketing functions of the college, while the senior managers' focus group feel that the marketing department would deal with the analysis of the external environment. The marketing department is adamant that they neither have the capacity nor the mandate to do so. The college's management staff engages in a strategic management process, some of whom express that they are aware of the lack of information of the local environment, as well as the narrow timeframes to perform a local analysis of the environment. Besides a recommendation of hiring a researcher in the future, there exists no haste or inclination of improving the understanding of the local environment. They either work to complete the task as per instruction, or are incentivised by the prospect of a new budget.

It is also an irony that all parties acknowledge the need for seeking non-DoE funds for relevant programmes for communities and industries, as well as the need to customise curricula, yet there is no progress in enhancing this possibility. Campus staff awaits accreditation for short

skills courses from the central office, which has not been forthcoming for several years (since 2007), while the central office does not hasten to fill the post of a learnerships manager, let alone find other ways to deal with the accreditation issues. However all parties understand that self-sustainability and greater flexibility may be achieved by the prospect of external funding, and that external funds may be achieved by running customised, SETA accredited programmes.

It is not practical, and even less possible, to fully resolve the mess outlined above; however, a few of the salient threads have been identified in chapter five, from where improvements may be deliberated. One poignant thread is the challenge of leadership.

6.6.1 LEADERS AND CUSTODIANS OF ENVIRONMENTAL SCANNING OF MAJUBA COLLEGE

The question to the interviewees: 'who are the decision makers with regard to understanding the external environment?' yielded a series of responses that reflected confusion on the part of campuses and the SRC, evident in the multiplicity of answers. However, the response to 'who ought to be the decision makers' revealed an overwhelming perception that it ought to be the senior managers. However, the response from the senior managers' focus group itself was deflective; they attributed power to the College Council and DHET and referred to SMT's powers being reduced to implementing DHET mandates.

On reflecting on the above, and with reference to chapter two it may be firmly established that:

- DHET holds the highest formal power by rank as well as financially, within the TVET Sector; they dictate the financial weighting of the courses, and determine the post provisioning and regulate the staffing, operational and capital budgets.
- The SMT holds the highest formal power within the college, albeit they seem constrained by bureaucracy and DHET imperatives.
- The College Council holds unique power as a governance body, not subordinated to any other than the Minister of Higher Education and Training. Its members were officially appointed by the Minister of DHET; its external members are not a part of the college line function, hence not on the DHET payroll.
- The SRC and Staff Union bodies hold very influential informal power; their orientation may be considered to range from a pluralistic to a coercive one, based on situational

circumstances.

Langton (2005: 1), Choy (2012: 9) and Cho (2011) assert that any form of structural arrangement for environmental scanning is inefficient if the senior management does not support it. The extent to which top managers scan the external environment personally, depends on a variety of factors, such as their personal drive, culturally influenced barriers and their perspective on environmental scanning and its benefits. Hence, Cho (2011: 154) drew on several works to illustrate that top managers can be impediments to organisational adaptation if they are constrained to certain ways of thinking of situations as well as their cognitive processes might be circumscribed by their own limited competencies.

6.6.2 THE LEADERSHIP OF THE SMT, DHET, COLLEGE COUNCIL AND INFLUENTIAL/ASSISTIVE STAKEHOLDERS RELATED TO THE UNDERSTANDING OF THE LOCAL ENVIRONMENT

The issues linked to leadership relating to understanding the environment are complex in the following ways.

6.6.3 THE LEADERSHIP OF THE SMT IN UNDERSTANDING THE LOCAL ENVIRONMENT

The SMT focus group's approach is to prioritise the DHET directive to increase student numbers. Therefore the SMT, together with campus managers, select the more lucrative subsidy based programmes as set out by the DHET, using a staffing budget that campus managers deem to fall short of optimum staff provisioning norms. Hence the SMT focus group considers their attention being narrowed to the prime objective of ensuring that courses are financially sustainable through high student numbers and lucratively subsidised programmes.

The extent to which the SMT is constrained from enhancing their understanding of the local environment, viz. limited in setting up scanning and research capabilities, is an important consideration. The SMT's perspective is that they can do little else except follow DHET directives.

However, improvements to understand the environment should not be mutually exclusive or counterproductive to the increasing of student numbers. An understanding of the external environment has the capacity of highlighting the need for certain courses and could be the stimulus for further improvements, e.g. adapting curricula, introducing other DHET courses,

which might enhance student enrolments. Despite its perceived constraints, the SMT has the operational capacity to either install systems and resources (including human resources), or reconfigure teams and systems, to develop and enrich its linkages with the external environment.

6.6.4 THE LEADERSHIP OF THE DHET IN UNDERSTANDING THE LOCAL ENVIRONMENT

The role of the DHET as the overarching body that provides leadership for Majuba College's environmental scanning via the strategic planning for colleges, is also unconvincing. The approach by DHET, by way of leading the colleges through a strategic planning session in the third term of the year, and accepting ad-hoc environmental scanning of the local environment by the college, sets the scene for 'scanning for planning' (Russel and Prince, 1992). The indication is that the college's distinctly short duration of scanning is overlooked in favour of ticking off checklists to conclude a paper trail for strategic planning.

There exists an absence of DHET's intervention in this tussle between mindful leadership that may materialise in changes in the way things are done, and pernickety administration which serves to meet the demands of corporate deadlines and secure an annual budget.

DHET also leads the formulation of Post Provisioning Norms (PPN) for TVET colleges, which regulate the way in which 63% of colleges' budgets are spent on Human Resources. This is a plainly critical area, with the ability of debilitating colleges if not properly planned and allocated, and perceived shortfalls addressed. The PPNs have been work in progress for more than seven years. Its protracted delay in being finalised becomes even more critical when one examines the views of the SRC, Campuses, Senior Management and WBE focus groups. The parties reflect on the shortage of staff, or resultant bloated class sizes but more especially, the compromises of practical work related to the NCV courses. The impact of the DHET's delay in delivering decisive staffing norms has resulted in each college having to work with limited staffing budgets and determine ways in which to make cutbacks; Majuba College focus groups reflect on the cutback on the quality and extent of practical work in the NCV courses. Ironically, it is the practical component of the NCV courses that ought to be the competitive advantage for learners to demonstrate a level of basic competence to potential employers. The shortfall of the practical component was highlighted by the SRC, lecturers, line managers

and the WBE unit; a compelling narrative was one where prospective employers expressed dissatisfaction with elementary skills of potential engineering recruits from the college.

Majuba College's tacit argument is that the quest for Majuba College to survive, even by compromising on what may be perceived as a competitive advantage in the market, supersedes its need to understand and serve the local environment reflectively. The absence of leadership by DHET in the area of post provisioning norms, especially in the lack of guidance in setting optimal ranges of educator, i.e. learner ratios for NCV courses, from which staffing budgets may be activated, remains a gulf around which colleges such as Majuba College, will continue to creatively bridge to survive.

6.6.5 THE ROLE OF THE COLLEGE COUNCIL IN UNDERSTANDING THE LOCAL ENVIRONMENT

Notwithstanding the fact that the College Council does not control the college's budgets directly, it is beyond dispute that they, as per the FET Act, were appointed by and report directly to the Minister of Higher Education, and therefore do have powers to influence every sphere of college governance. Focus groups, including the senior management team and the SRC, acknowledge that the College Council of Majuba College possesses strong political and/or corporate profiles. Significantly, the fact that they are not dependent on the college line function for their livelihoods affords them neutrality that makes them formidable sources of influence, albeit they might not directly control budgets. Therefore their limited attention to addressing the absence of a framework to ensure a credible environmental scanning process, cannot be attributed to their lack of power.

The College Council is ironically the link between the college and the local environment. Its members comprise a combination of figureheads from local industries, legal authorities, related public sector entities, powerful political affiliations, as well as the school sector (Dept. of Education). Implicit in the council's role in ensuring the college's adherence to the principles, norms and legislative frameworks of the country, is its obligation to ensure that the college functions as an integral, contributing entity of society.

The narratives relating to the College Council in chapter five, reflect that the College Council is aware of the need for the college to be relevant to the local environment, and produce

students that industries require. Hence their lack of advocating a structured approach to investigating and understanding the local environment, is not the result of ignorance of the need to do so.

The College Council, as powerful custodians of Majuba College, ought to advocate the need for a policy framework that realigns existing college systems and structures, in addition to the creation of new ones, to facilitate the continuous scanning and understanding of the local environment and act regularly on processed environmental information. This would be to the benefit of stakeholders, including students, parents, potential employers, etc. of the local environment.

6.6.6 THE ROLES OF OTHER ROLE PLAYERS IN UNDERSTANDING THE LOCAL ENVIRONMENT

The findings in chapter five reveal that other role players in central office portfolios and similar units, as well as campus managers, display institutional leadership by either playing a supportive, enabling or expert role, borne of their hands-on operational expertise within their areas of specialisation. For example, the campus manager may influence senior managers or the academic board to approve the running of certain courses on their campuses based on campus operational issues. Or, pertinent to this research, the chairperson of the strategic planning committee may play an expert role in assisting the senior management team to develop the strategic plan, which ought to take into account the environmental scanning. Staff and student bodies might sometimes play a more coercive leadership role, in pursuit of their interests, which the college leadership has to weigh against the DHET imperatives.

6.7 RECOMMENDATIONS TO IMPROVE THE COLLEGE'S UNDERSTANDING AND RESPONSIVENESS TO THE LOCAL ENVIRONMENT

It is difficult to pinpoint the extent to which the senior managers of Majuba College are constrained by their own limitations or those of DHET, or influenced by students and staff, or overly reliant on middle management expertise. The college council, which the SMT is a part of, have role players that seem to understand the need for aligning college programmes with the external environment. The college council has the capacity of influencing and supporting the SMT to install or customise related policies and create relevant systems. However, this influence has not come to bear on the SMT.

While it is unclear why the different tiers and components of leadership have not been able to promote a strategic scanning orientation, it is clear that any form of structural arrangement for environmental scanning will not work well if not supported by the leadership of, specifically, senior managers (Langton, 2005: 1; Choy, 2012: 9; Cho, 2011). Cho recommends that to avoid having a leadership echelon that is prevention focused (Cho, 2011: 151), the leadership ought to comprise a diverse[11] set of individuals, whose expertise, background and mindsets may complement one another and broaden their collective cognition. While this may bear relevance to the college (the extent of homogeneity of its management teams at DHET, SMT and College Council is not established) it is further recommended that policies and guidelines, together with development programmes relating to the strategic importance and processes of environmental scanning, be regular interventions for college leaders.

6.8 SYNERGISING OF LEADERSHIP

The literature review illustrates the case of the 1998 Virginia Community Colleges Association convention in the US, which focused on environmental scanning in a landmark event, to unite institutional planning with the environmental scanning of their local environments. Similarly, the college sector would do well in using unifying institutions or forums provincially or nationally, e.g. the Committee of Principals of TVET colleges, to synergise effort and commitment into understanding their environments.

6.8.1 THE ACTIVE PARTICIPATION OF LEADERS IN UNDERSTANDING MAJUBA COLLEGE'S ENVIRONMENT AND LEADING CHANGE

The conscious involvement of leadership in leading and managing environmental scanning is well demonstrated in the study of the turnaround of the University of Southern Indiana (USI) (Hanka et al., 2015). USI has in place a Trend Analysis Committee that reports directly to the President of the University Council. The President's Council then conducts a further meeting for 'a deeper dive' discussion related to the studies of the Trend Analysis Committee. The results of the environmental scan are also presented to unit and programme officials/managers. This is unlike the case of Majuba College, where environmental scanning,

[11] 'Diversity' in the commonly used South African context relates to a mixture of individuals with varied racial, gender and disability profiles. In the context used by Cho, it is clear that 'diverse' refers to individuals with different mindsets, expertise and orientations, i.e. individuals who might share different perspectives in the way they view the world.

enmeshed in a strategic planning process, is delegated to a strategic management committee, without scrutiny and evaluation by the leadership or senior management. Beyond the absence of leadership at different tiers, related to environmental scanning in Majuba College, there also seems to be a lack of understanding and appreciation of how and why environmental scanning is done. Hanka et al.'s (2015) case study of USI, on the other hand, reflects a single-mindedness of leaders, collaborating to achieve a common goal – to link the college with opportunities gleaned from the environment. Similarly, it is the unity of a common objective that has the capacity of synchronising the various forms of leadership within Majuba College. This will include all tiers of leadership within Majuba College, ie. College Council members, senior management staff, site managers, central office portfolio managers, and influential leaders like union representatives and the SRC of the college.

Chapter two reflects the need, borne of legislation, for colleges to become self-sustaining entities, with multiple streams of income, over and above the government subsidies. The findings in chapter five reflect a college that is reluctant to move from its current state, having guaranteed subsidies based on student numbers, to a new state that might demand the transformation of curricula and programme dynamics. The leadership's responsibility in leading the college through change, from a purely State reliant institution to an institution with multiple donors including the State, needs to be given attention. It is paramount for the college leadership to reflect on the need for change, over and above instituting policies and structures, as there is cause for the college to move beyond its need to survive, to a vision of thriving.

6.8.2 FURTHER RESEARCH RELATED TO LEADERSHIP OF TVET COLLEGES

The area of leadership has been a significant factor in this study. Notwithstanding the recommendations that have been made related to leadership in response to particular findings in this research, it requires further study. The distinct pervasive nature of leadership (it is not restricted to managers), coupled with the acceptance that the college exists in an environment that is complex, containing pluralistic and coercive stakeholders, reinforces its importance. This also allows one to reasonably generalise its significance across the college sector. The effects of college situational variables on leadership present an interesting area of work, as is the exploration and use of visionary based leadership approaches in complex settings.

The development of the funding norms and standards for college programmes by the DHET is

ongoing, and is a further area of significant work that needs monitoring. Its relevance and adequacy to a college that aspires to be environmentally connected, is a matter of interest.

6.9 THE IMPACT OF ENVIRONMENTAL TURBULENCE ON INSTITUTIONAL CHANGE

I refer to the study by Davis and Ellison (1998) in chapter three (figure 3-7), whereby they draw upon and expound on the illustration of Boisot (1995: 40). The illustration depicts the level of turbulence in the external environment versus an educational institution's understanding of the turbulence in that external environment. The level of turbulence may range from high to low, as would the institution's understanding of the external environment. Depending on this result, Boisot reflected on four possible extreme states within that environment, i.e. the organisation could either adopt an intrapreneurship, emergent, strategic intent, or strategic planning orientation.

It is hereby argued that, in terms of the Boisot's model, Majuba College, like most educational institutions in the 21st century, has to deal with rising volatility and uncertainty of the external environment borne of factors such as rampant globalisation and technological advancements, economic crises, political power-plays and natural disasters. Hence it would be reasonable to assume that the turbulence in the external environment is likely to be higher than previous decades.

At the same time, the results of this work suggest that Majuba College has a lower understanding of the turbulence in the external environment, owing to its predominantly internal focus.

It thus becomes clear, in terms of the model (chapter three, figure 3-7), that the college leans towards an intrapreneurship strategy. This implies that, owing to it not fully understanding the external environment, the focus of the organisation is more inward, with less integrated planning. In such cases campuses and certain portfolio areas and units would be given the leeway to react as they choose to, in response to their internal dynamics. The fragmentation leads to certain units or campuses failing while others seem to succeed.

Ideally, the college ought to aspire to increasingly understand the turbulence in the external environment, in which case, it would increasingly move towards a strategic orientation – an

orientation of *strategic intent*, as suggested by Davis & Ellison (1998). This principle is recently reinforced by Vecchiato (2015) who refers to 'flexibility' as a component of decision making in 'environmental uncertainty'. In a turbulent environment, rigid longer term planning, e.g. Five years, might not be viable as the environment is subject to constant change, likened to the seascape referred to in chapter four. It is quite possible, for example, that the local skills demands in Year One might be radically different to the skills demands in Year three. An organisation adopting s*trategic intent* aligns the vision of the organisation with its employees, providing strategic direction, and focuses the employees to a core direction amidst the seascape. A common purpose and flexibility (staff, systems, policies, etc.) combat diminished predictability and allows the college to navigate through uncertainty.

In order for a TVET college to confidently maintain a strategy of strategic intent in an environment that is unlikely to become less complex, it is forced to understand that environment well enough such that it can track environmental changes regularly and respond immediately. Hence the need to comprehensively address environmental changes at all levels, as suggested by Munive-Hernandez et al. (2004) in a methodology that supports an analysis of environments, i.e. the macro environment, the micro environment, and the internal environment (refer to chapter three, figure 3-5).

6.10 CONSIDERATION OF INTERNATIONAL PRACTICES

The literature review includes a scholarly study of the University of Southern Indiana (USI) as well as Annual Environmental Scanning reports on US-Based institutions. It is noteworthy to reflect on the US federal government's tightening of the funding criteria for its universities, namely USI. The funding criteria changed from an enrolment based funding formula to a performance based system. USI's decision to become outward focused and develop its environmental scanning was in reaction to the budget cutbacks of the federal government.
This transitioning is similar to South Africa's, where the funding changed to a programme based funding, and the responsibility for generating more funds is shifted to the college. USI, like Majuba College, was inward focused in its strategic planning.

The USI environmental scanning, as well as the annual environmental reports of other US institutions, reflects the practice of 'continuous scanning'. This refers to an ongoing investigation of the environment. A sample of US-based institutions' annual scanning reports

traverses over a financial or academic year, generally covering more than seven months of data. This is a marked contrast with Majuba College's one week stint at seeking and compiling environmental scanning information. Fahey, King and Narayanan (1981) lend insight into the value of continuous scanning in an educational context as a means to counteract the pitfalls of active, ad-hoc, scanning. Even though active scanning (at best, adopted by Majuba College) does consciously attempt to scan secondary sources with an intention of using the information strategically, the short-term nature of active scanning often results in embedded, subtle, or scattered information not being detected. Continuous scanning allows for an ongoing process of reflection by various stakeholders, at different times; interpretations of such information are allowed to mature, integrate and manifest.

USI re-established itself as an 'engaged learning community' with the intention of 'fostering partnerships through comprehensive outreach programs'. Like Majuba College, it used a SWOT analysis, but this SWOT integrates the GE McKinsey Nine –Box Matrix (refer to chapter three, figure 3-8) in its analysis, to make decisions. USI related Business Strength to Industry Attractiveness, measuring the market potential of a strategic business unit based on growth, against its business strength which is an internal focus that measures the current strength of the college in the market.

In contrast, Majuba College's SWOT analysis inevitably has a strong focus on internal capacities. The advantage of using the GE McKinsey Nine-Box matrix is that it enables USI to evaluate the strengths of its faculties or departments, or project units, against the attractiveness of the external entity with which they wish to serve or collaborate. The USI perceived the model for strength against external opportunities a more appropriate model than the traditional SWOT analysis, as it linked its strategic planning directly to the environment. USI's environmental scanning model asks: 'How should the institution leverage its strengths to respond to trends, distinguish itself, and position USI for future success' (Hanka et al., 2015: 11). Majuba College would benefit from incorporating any such model that compels it to measure its internal capacities against external entities.

6.11 REALIGNING AND ESTABLISHING INTERNAL SYSTEMS TO MEET MARKET NEEDS

Final meetings with the campus focus groups as well as subsequent discussions with central office stakeholders resulted in a shift from the simplistic view that the college needs a

researcher to undertake research into the external environment. By the third meeting, it was clear that the researcher would be a part of a system of environmental scanning and market research, composed of a series of interrelated boards and forums at central and decentralised levels, comprising internal and external stakeholders.

Recommendations ranged from the idea that curriculum personnel from the central office ought to have a shared physical presence on delivery sites (viz. campuses) as well as at the central office, to engage in the dynamics of campus operations and play roles of research facilitators or scanners linked to the local communities. When these individuals, essentially itinerant staff, return to the central office, they would initiate or drive the customisation or adaptation of curricula. This recommendation is in tune with the adapted model derived from Liu (1998a), Grundy (2006), Gupta (2013) and Jackson (2003), in chapter three, (figure 3-1), as well as the practice of USI, where continuous scanning is regularly fed back to the organisation's input such that an educational institution may, amongst other actions, recurriculate in order to be relevant to the external environment. In Majuba College's case, the misalignment between business and industry's requirements and the college's curriculum presented a significant disconnect. Hence, the structured deployment of the college's curriculum practitioners into decentralised roles on campuses or other delivery units, to serve as environmental scanners, would allow the curriculum unit direct exposure to stakeholders, narratives and debates surrounding curriculum issues. It would bolster their knowledge and resolve to adapt curriculum or related issues (rearrangement in teaching times, adaptations of practicals, etc.) within the bounds of examination and syllabi requirements of the DHET.

6.12 CENTRALISED AND DECENTRALISED LEVELS OF INVOLVEMENT IN LOCAL ENVIRONMENTAL NEEDS

The narratives of the campus focus groups clearly reflected that campuses needed to have some involvement in assessing and collating local environmental information as they have a vested interest in the quality of students' performances, from their suitability on entering the campus, to their possible placements. By the final meeting with the campuses, they had recognised the limitations of the marketing unit at the central office: it lacked resources, time and expertise, let alone a mandate, to conduct environmental scanning strategies, especially for delivery sites. At that stage most focus groups were able to distinguish between scanning

an environment and conducting promotion campaigns.

As a conservative starting point, a structural approach is recommended, with decentralised scanning units at each delivery site, to engage in a preliminary scanning of the environment, seize opportunities to participate in the local community forums and recommend revisions to curricula. A central transdisciplinary environmental scanning team ought to coordinate the decentralised units.

While the findings of chapter five posit convincing arguments for a level of decentralisation, the findings also reflect the need for a strong central focal point. This view is supported by Kotler (2003), who stresses the point that successful institutions that conduct environmental scanning, have their power base centrally located. Kotler refers to institutions where senior role players are at the forefront of evaluating incoming information and planning. This practice is also evident in the USI case study (Hanka et al., 2015), where the CEO is directly engaged in monthly analyses of incoming scanned information. This trend reinforces the role of environmental scanning as a competitive advantage for self-sustaining organisations.

Similarly, Majuba College's centralised base of power could be a high-level committee, chaired by the Principal, that views processed information on a cyclical basis, around which debates and discussions may lead to decisions. Such a body would have a powerful transdisciplinary committee that reports to it, comprising of research expert/s, curriculum, WBE, Marketing, etc. Its subcommittees might comprise of senior stakeholders (preferably managing directors and CEOs) of local industries and businesses, as well as committees that reflect significant civil organisations, NGOs, etc., in the local environments.

6.13 THE MARKETING OF THE TVET SECTOR – THE DoE (HIGH SCHOOL) PARADOX

Chapter five contained the persistent narrative that colleges are perceived as 'dumping grounds' by schools and the last outpost by the community. The fact that the college targets exiting grade 9 learners as its prime target base, means that the school leaders are potentially the best marketing agents for the college. But practically, schools themselves are on a quest to perform well, and tend to retain the well-performing pupils and push out the 'problem' pupils. Hence, the college's potentially best marketers could be its worst.

This paradox might require the intervention of the DHET, as the most resourced and powerful

body in the array of relationships outlined in chapter five. The DHET could initiate an inter-ministerial relationship between DHET and DoE, focusing on creating certain forced interactions to ensure that information is correctly disseminated to pupils and parents. Such interactions may include compulsory open days and visits, for colleges to engage in marketing activities and promotions in schools. Compulsory induction workshops on TVET colleges for school managers, teachers and parent representatives are also recommended. Statutory agreements may be drafted that could ensure that TVET colleges and surrounding schools be part of a forum constituted to ensure cooperation in various undertakings: career counselling, localised employment information, etc.

In the interim, colleges need not relinquish all responsibility of dulling the impact of this paradox. The final meetings with the campus focus groups led to a resolution of creating direct relationships between their campuses, with the assistance of the central office, and the surrounding schools, and engaging in a longer sustained interaction of mutual benefit. This may be in the form of engagements such as skills taster programmes for pupils during school holidays, enrichment courses, etc., but the thrust of such relationships would engender trust and understanding of what colleges do, through familiarity. The campus focus groups resolved that these relationships, if well fostered, may lead to engagements in formal structures like the governing body, committees (perhaps learner recruitment, career counselling), and informal roles, that could assist the college in reducing uncertainty in student recruitment practices.

6.14 A SHIFT TOWARDS INCREASING SELF-SUSTAINABILITY

The extent to which the approved DHET curricula (NaTED and NCV) may be adapted is limited; the DHET naturally seeks to maintain established standards and consistency in its qualifications. As articulated in chapter two, the qualifications are examinable against particular syllabi, which are graded into levels of recognition (NQF) when evaluated in terms of the South African Qualifications Authority (SAQA). The TVET colleges' summative assessments are national examinations; they are fixed. Therefore, only the content, duration and way the courses are presented may be adapted to the extent that the learners are still able to cope with the formative and summative assessments; adaptations would take the form of enhancements, non-core changes to practical assessments, even extensions to the course, etc. Example, a six-month programme may be reduced to a month's programme, provided that the

educator's total contact hours with his/her students, though re-arranged, remains the same. Or a trimester course may be stretched out over two trimesters with enhanced practical sessions.

However, should industry and commerce, or any other entity in the environment, have requirements that go beyond that which may be adapted, then the college ought to be able to offer customised courses through accredited programmes, via alternate funding streams, especially through SETAs.

A clearer understanding of its environment affords Majuba College the opportunity of discovering what business, commerce and community seek, as well as allow the college to make adjustments to meet those needs. In effect, it allows the college to make an impact on the external entity's productivity. It also sets up prospects such as longer term relationships, MOUs, up-skilling of college lecturers in the vocational workspace, and in-service training for college students.

The literature review has shown that enhanced environmental scanning leads to opportunities to form networks. It also demonstrated that having the internal systems to act on resultant external insights is equally important, as demonstrated in the self-sustainability of USI. In the case of Majuba College, the pursuit of greater self-sustainability would give the SMT a greater margin of autonomy for decision making. It would incentivise students' performances with the prospect of placements. The narratives of the SRC in chapter five revealed a student body that felt it had nothing to lose in disruptive (particularly destructive) protest, as jobs were not forthcoming anyway. The related benefit of the college integrating with business and industry is that the evolving of a culture of greater discipline is possible; the prospect of jeopardising work placements may provide the stimulus for greater responsibility by the student body.

6.15 POLICIES, PROTOCOLS, ORGANOGRAMS AND GUIDELINES

The preceding paragraphs have alluded to the need for the college to have a *structured system* that processes and integrates continuous environmental scanning derived from the local and remote environments into the college operations, and informs the subsequent planning to improve or correct the way in which education and training is conducted.

For this structured system to sustain itself, it requires organisational redesign or adaptation, as

well as revised policies, procedures and the introduction of new reporting lines and organograms, as well as feedback and auditing practices. New roles will require either the recruitment of relevant expertise (e.g. research expertise), extensions or revisions of certain job descriptions and consultation thereof (e.g. campus scanning teams, the introduction of central itinerant curriculum practitioners, itinerant lecturers who work in industries and the college, etc.). Certain expert functions may need outsourcing (e.g. environmental research on a macro level, for a broad scan), and feedback systems would have to be developed to ensure evaluation and reporting. An information technology infrastructure ought to be integrated into the college's scanning and processing system, in keeping with Liu's(1998a) contention of using information systems for not merely alleviating complexities arising from the need to mine, assimilate and process large quantities of data, but also elevating environmental scanning to a strategic activity.

The college may also have to develop corporate initiatives to draw a wide cross-section of external role players into committees and forums. These committees would possibly host the local environment's influential leaders from industry, commerce, civil society and significant public office-bearers, as well as political figures. The college may choose to use the academic board as the hub of the various substructures.

6.16 A PROPOSED SYSTEMS APPROACH TO ESTABLISH A COLLEGE SYSTEM THAT IS RESPONSIVE TO THE ENVIRONMENT

The following guiding principles may be inferred from the preceding paragraphs relating to the extent to which Majuba College ought to improve its understanding of the local environment:

- Structural responsiveness: a responsive structure that interfaces environment and institution.
- Feedback: a feedback system between the environment and the institution.
- Scanning Expertise: systems and processes that constantly scan and process information relating to the external environment.
- Managerial Accountability: an accountable management structure that is informed timeously of environmental information, and makes decisions based on such information.
- Auditing framework: evaluation and control at all levels.

The systems approach has been used to conduct this research, in the form of Jackson's Total

Systems Intervention. SSM, together with narratives, was adopted to gather a general but rich impression of the college in relation to the research question, based on an interpretive paradigm, the intention being exploratory. This was coupled with the use of CSH, which is more emancipatory, in order to be more critical and selective.

However, the recommendations leading to the above principles reflect a paradigm that is structuralist, and as discussed in chapter four, reflective of a more organism like orientation – likened to the self-adjusting features of a human brain (refer to chapter four, Table 4-3: a tabular interpretation of Jackson's 'Creative Holism'). With reference to Table 4-3 of chapter four, the principles above relate dominantly to the need to enhance *goal seeking* and *viability*. With this in mind, the Viable System Model by Stafford Beer, as discussed in chapter three and its relevance reinforced in chapter four, is preferred in recommending a system to test the extent to which the above principles are realised.

6.16.1 THE USE OF VSM IN THE DIAGNOSTIC MODE TO DETERMINE THE EXTENT TO WHICH MAJUBA COLLEGE REFLECTS THE PRINCIPLES OF THE VSM

The literature review reinforced the value of using the VSM in the diagnostic mode; this approach was adopted as it was argued in chapter three that Majuba College did structurally have features of a viable system. The college will be re-examined in comparison with the general VSM diagram in chapter three (figure 3-13) and related theory, to determine the extent to which it is viable as well as gain an insight into shortcomings that inhibit its viability.

6.16.2 SYSTEM 1: THE OPERATIONAL CIRCLES/UNITS

'These are the set of activities that the organisation does, which provides value to its external environment' (Reynolds & Holwell, 2010: 89), i.e. the primary operations.

In relation to Majuba College, the operational circles represent the delivery sites, i.e. the campuses, at the initial (referential) level of recursivity. Its role in the external environment is the education and training of students from, primarily, its local market segment, with the intention that students either be recruited within institutions of the external environment, or are able to seek opportunities of self-employment that will fulfil needs within that environment.

6.16.3 SYSTEM 2: THE COORDINATION LINES

This reflects the set of activities or protocols to coordinate operations (Reynolds & Holwell, 2010: 89). Coordination prevents conflicts between different operations (represented by the triangles) and facilitates communication.

With reference to Majuba College, these lines would represent coordination and auditing between the centrally located portfolio units, and each of the subsidiaries (delivery units, mainly campuses).

Coordination emerges from the central office, comprising ten portfolio units. The portfolios represent the different facets of responsibilities and tasks that support campus operations. They are divided into corporate, academic, and financial responsibilities. Each portfolio is replete with its own sub-plan, staff and manager (Assistant Director). The Academic Services portfolio units are: Curriculum, Examinations, Student Support Services, and Quality Management. The Corporate Services portfolios are: Marketing, Human Resources Management and Development, and Corporate Services. The two remaining portfolios are: Finance and IT and Communications form the third category, led by the Chief Financial Officer.

Each portfolio has decentralised processes, or coordination with the delivery sites (campuses), through its practitioners and administrative staff. All portfolios conduct advocacy, training, advisory services for subsidiaries from time to time, as well as auditing functions. Example, the HR function will verify payroll and leave through a monthly procedure, as well as oversee on-campus recruitment processes of entry level staff. Finance committees and Corporate Services will audit the campuses from time to time.

The portfolio units coordinate activities on campuses by either decentralising certain functions, or traversing between the central office to each delivery site, or communicating virtually.

6.16.3 SYSTEM 3: CONTROL

System 3 reflects the ‘management activities to do with allocating resources to operations and ensuring they deliver the performance the organisation needs, which we might call ‘service delivery’ (Reynolds & Holwell, 2010: 89).

System 3, for Majuba College, reflects the set of functions driven by portfolio managers at the central office, who are tasked with ensuring that resources are sought and provided to the campuses, as well as there is coordination amongst the portfolios. Portfolios will depend upon the approval of the relevant senior managers to maintain a supply of resources, and implement decisions, within the academic, corporate and finance sections. The senior managers work or ought to work in concert to ensure that friction and smooth interflow of services occurs, without duplication from portfolio units, or overlapping of resources, etc.

6.16.4 SYSTEM 4: INTELLIGENCE/DEVELOPMENT

This reflects the 'management of activities to do with understanding the environment and the future, with planning and change, the outcome of which is to develop the organisation.' (Reynolds & Holwell, 2010: 89).

In the case of Majuba College, the management activities relating to understanding the environment is evident in a short spell of planning in the third term of each year. Certain activities, in the form of active units, e.g., WBE, are in place. They are engaged in placing students into the environment and inadvertently are able to network and understand certain parts of the environment.

A marketing function interacts with the environment, creating awareness, and at times, deriving information of students from selected schools in the environment, though not overtly segmenting and conducting market research. No integrated system exists in understanding the local environment.

6.16.5 RECURSIVITY

At this point, one needs to reflect upon the fundamental principle of recursivity as articulated in chapter three, that underlies the self-regulation of the VSM. In this context, it implies that each operational area or campus in figure 3-13, is a viable system in itself. This means that a campus of Majuba College would have the features of Systems 1, 2, 3, 4, and 5. Hence, at a level of recursion that places the campus itself as a possible Viable System Model, its intelligence (system 4) would be its attempt to understand the campus' local environment,

which may be referred to as its ‘market segment’.

Campuses themselves have varied levels of interaction with their local environment, and, as gleaned from the findings, they try to understand those aspects of the environment that they incidentally detect during institutional interaction. There is a distinct absence of a system of inquiry into the external environment. This relegates all interaction with the environment to informal and sporadic, implying that no understanding may be comprehensive. Such information ought to be pooled into a central intelligence of Majuba College (system 4).

This work has shown that the consolidated external analysis is neither comprehensive nor a sound reflection of local environmental information. Hence, system 4 at each level of recursion, is severely lacking a methodological, continuous form of understanding the environment, and consolidating this knowledge and experience into comprehensive information that may be used to advise policy (system 5) and influence delivery (system 3).

6.16.6 SYSTEM 5: POLICY

This refers to ‘the set of management activities to do with ensuring that the organisation works as a system, that there is a balance in decision making between systems 3 and 4 , and also maintain the organisation’s identity and ensure that activities undertaken are consistent with acceptable practice, what we would normally call governance’. (Reynolds & Holwell, 2010: 89).

It may be argued that the managerial initiative at Level 5 (‘Policy’), to ensure that the organisation works as a system, is the work of the following functions:

- The Senior Management Team (SMT), i.e. the Principal and three Deputy managers, who make policy decisions where possible, ensuring that new policies are introduced where required, existing policies are maintained and revised and certain DHET policies are enforced. They also ensure that their portfolios are coordinated across the organisation. The SMT deals with variety lags, ensuring that resources are sought (budgets are released) as situations demand, within the limits of DHET policies. The Principal would ensure that there is coordination and balance amongst the work of the senior managers as well as draft in the mandates and imperatives of DHET.

- The College Council would typically fulfil a role of governance , ensuring that the principles of

legislation of the country are embraced within the policy framework of the institution; the council supports the institution's plans to fulfil its mission and strives to realise its vision.

- The structures and tools to bring together the objectives of governance and management are evident in the Academic Board as well as the Strategic Planning Committee, amongst other forums. The Academic Board has the mandate to constitute any subcommittee it deems appropriate to do its work, including forums that derive information from the external environment.

However, they do not have integrated structures and such active forums; most of the work of the academic board is inward focussed. The findings have shown that the Strategic Planning Committee does not provide comprehensive, scanned information, especially local. Their only reach into the external environment to perform an external analysis as a part of the strategic planning process, is a few secondary sources and feedback from line managers during a short burst of activities that lasts less than a month. Notwithstanding its quality, it may be argued that certain structures and tools exist that may be regarded as contributory to an intelligence unit at Level 4.

Therefore the college has a set of management activities that assist in bringing about balance in making decisions between delivery and development, albeit their work in development, in itself, does not adequately nor accurately reflect environmental insight. The governance structures, to a certain extent, align the organisation to aspects of its mission statement, and policy prescripts. Ultimately, the thrust of the relationship between intelligence (system 4) and policy (system 5) has been to maintain some inner stability rather than an outward consciousness.

6.16.7 TESTING THE VIABILITY OF THE CAMPUS AS A FRACTAL SYSTEM

The campus as a semi-autonomous entity that replicates facets of the central office, is evident to a certain extent. Some portfolio work features in some campuses. Certain central HR and Finance processes are evident on campuses such as decentralised recruitment and selection panels and processes. These processes and structures are replicated for entry level posts on campuses. In most cases, coordination between the central office HR or Finance portfolios lies in the practice of linking portfolio administrators from the central office with those on

campuses, as well as central auditing of resulting documentation that arises from campuses. This represents some balancing of campus autonomy with organisational cohesion, in a guarded practice of favouring control, without stifling the possibility of emergence, as deliberated by Reynolds and Holwell (2010: 91). The assurance of such recursivity lies in coordination measures, including training of staff to comply with the relevant policy frameworks.

However, not all portfolio activities are evident as recursive states on delivery units, or not to the extent of those discussed earlier. Marketing, for instance, is predominantly centralised with the Marketing portfolio unit, as gleaned from the findings in chapter five, in spite of campus managers being called upon annually to provide local market information. Similarly, the WBE unit is a predominantly central unit that is attempting to find some cohesion with campuses, as it requires campus-based educators to be exposed to industries.

The campus management team (CMT) plays the role of balancing the delivery with the teaching units, ensuring the link between corporate administration with classroom practice for the most part. However, the CMT has little work in balancing any processing of external environmental information, because it does not have any investigative systems that draw information from the local segment of the environment. It does, however, have ad-hoc means of addressing incidental environmental information that it may deem fit to translate into action, e.g. an incidental contract with the local municipality to train plumbers as discussed in relation to Campus A in chapter five. That may lead to the CMT accommodating the delivery of such training via the relevant department.

6.16.8 TESTING THE VIABILITY OF THE DIVISIONS WITHIN CAMPUSES AS FRACTAL SYSTEMS

It may be argued that the departments within campuses themselves reflect a further fractal level. The facets of operations (system 1) in the form of teaching and learning, coordination and monitoring (system 2) achieved by senior lecturers and/or faculty teams, are evident. Coordination and monitoring are achieved through campus processes, and curriculum policies and procedures. There exist policies and procedures for student assessment, monitoring, etc. These departmental academic structures led by Head of Divisions and Senior lecturers would be reflected, for the most part, by ‘delivery’ or ‘control’ in figure 3-13 (system 3).

However, at this fractal level there is a similar disconnect of the development or intelligence unit (system 4); there is no investigation into the local environment pertaining to the vocational field in which the division is involved. This surfaced in the campus focus group findings, where faculty specialists and lecturers were clear that they were not directly involved in aspects of the environment that impacted on their area of vocational expertise.

The policy coordination of the faculty (system 5) generally occurs through faculty meetings, via faculty heads, aligned to the CMT. Given the lack of local intelligence related to the immediate environment, it is inevitable that the focus is purely internal: on delivery of teaching and learning services, and the related issues associated therewith (e.g. infrastructural maintenance, training of staff, procurement of equipment, etc).

6.17 THE IMPACT OF UNDERSTANDING THE ENVIRONMENT WITH REFERENCE TO THE VSM OF MAJUBA COLLEGE

While the fractal relationships within the college system are evident, whether intentionally or incidentally by design, the research question: 'to what extent does the college have a fair understanding of its local environment?' relates directly to System 4 (Intelligence/Development) on the VSM in figure 3-13. This is where the viability of the meta-system, or the campus, or division, relates to the way in which it understands its immediate external environment or market segments. This knowledge is essential to the college, campus or division to ensure the viability of its system, where such intelligence informs how it controls its operations, informs policy, and stimulates leadership to balance variety lags.

Hence, the meta-system and fractal systems of campus and then divisions, beg two significant questions, to determine whether function 4 on each recursive layer adds value to the viability of each successive recursive layer and the entire organisation:

- Are there successive systems in each recursive layer that facilitate the understanding of the local environment or local market segment?
- If so, to what extent is the system of understanding the external environment of a campus or division, as successive fractals, interconnected to each other and the meta-system?

6.17.1 THE FINDINGS IN RELATION TO MAJUBA COLLEGE AS A VIABLE SYSTEM

The findings in this work negate the need for deeper analyses of the above questions, as it is clear enough that there are insubstantial practices at the college (meta level of recursivity) of understanding its environment, nor any such formal practices within recursive layers (campuses or divisions). It is clear that the college's development/intelligence layers at recursive levels (system 4) are random or chance discoveries of that which exists in the environment. Environmental knowledge is not consciously processed by any delivery unit of the campus. In terms of the VSM, the college has a low level of adaptability with the environment.

6.17.2 RECOMMENDATIONS RELATED TO THE MAJUBA VSM

It is evident that Majuba College has structural features of Stafford Beer's VSM at levels 1, 2, and 5, evident in recursive states, i.e. ranging from the entire organisation, to its campuses, then to the campus divisions. The extent to which these systems are well coordinated and relevant is beyond the scope of this work, and entails closer detailed work, but suffice to suggest that there was never a conscious effort by the designers of the college system to align Majuba College to the VSM. Aspects of systems 1 to 5 were in-bred into a government-based hierarchical system, as a reasonable means to control operations and develop the college. The formation of central portfolio areas and structures such as the academic board and college council are some ways in which the variety of the environment may be potentially countered by the requisite organisational variety in terms of Ashby's Law. However, this is not enough if the investigation into the environment is insubstantial, and hence not a significant contribution to bolster the work of entities such as portfolio areas and the academic board.

The extent to which different recursive states (e.g. campuses) are autonomous versus the degree to which such autonomy inhibits or promotes cohesion is also beyond the scope of this work, but it is clear that such thinking was never at the forefront of the organisational design of Majuba College.

Significant to this work, is that it is clearly evident that there is little work on the development aspect of Majuba College's VSM, which relates to the external environment. Hence, the balancing of any processed environmental information with the organisational operations is at a minimum. This is resonant of the work of Davis and Ellison (1998) who drew on the work of

Boisot (1995), where educational organisations exhibiting a low understanding of an environment that has a high turbulence, resort to an intrapreneurship strategy. This strategy is characterised by an inward focus. The underdevelopment of the development component results in the college not thriving on the benefit of a cybernetic quality: the self-monitoring and improvement borne of feedback cycles and concomitant control. Hence, the unknown variety in the environment cannot be translated into the requisite institutional variety, which might have been evident in niching of programmes, realigning of curricula, as well as a host of unknowable, emergent ways in which the service delivery landscape might have evolved. This work has reflected the need for environmental feedback to include continuous scanning of the local environment and the examination of trends through networks and multiple interactions, which ought to be regularly processed. Such information at the developmental level ought to be constructively used and balanced against delivery by those who uphold policies and are accountable for planning and coordination (Level 5).

6.17.3 RECOMMENDATION OF A CLEAN SHEET APPROACH USING THE VSM AS A PREFERRED SYSTEMS APPROACH FOR IMPROVEMENT

Given these findings, it is recommended that future work focuses on a clean sheet approach in using the VSM to plan a viable system for Majuba College that has a development component at each recursive level. Such work will examine each component of the VSM such that the intention to function as a cohesive whole, with necessary autonomy for emergence, is deliberately considered. The work ought to include the possible level of recursivity at DHET levels, regionally and nationally. This work has been limited by the fact that deeper investigations into regional and national DHET levels have not been explored sufficiently. At the point when the research was conducted, it was unclear whether the DHET National Office would be supported by Regional Offices, or work with colleges directly. Towards the end of this research, it had become apparent that the DHET KZN Regional Office was in its formative stages.

Therefore, in designing Majuba College as a viable system, it would be reasonable to consider the regional and national DHET leadership centres as successive fractal organisations.

A designed VSM for Majuba College would inevitably lend insight into the areas of leadership that are required at various stages of the model, without having to force-fit its design into a

hierarchical model. The design should be able to expose areas of redundancies, surpluses or deficits in the college's hierarchical system, as its primary focus is to determine the required activities in relation to the model. Management roles and activities that do not add value to the principles outlined for the running of the organisation, ought to surface. Unnecessary or ineffective devolution of managerial responsibilities, or such devolution of responsibilities without monitoring and control, ought to be identified and improved through the VSM design.

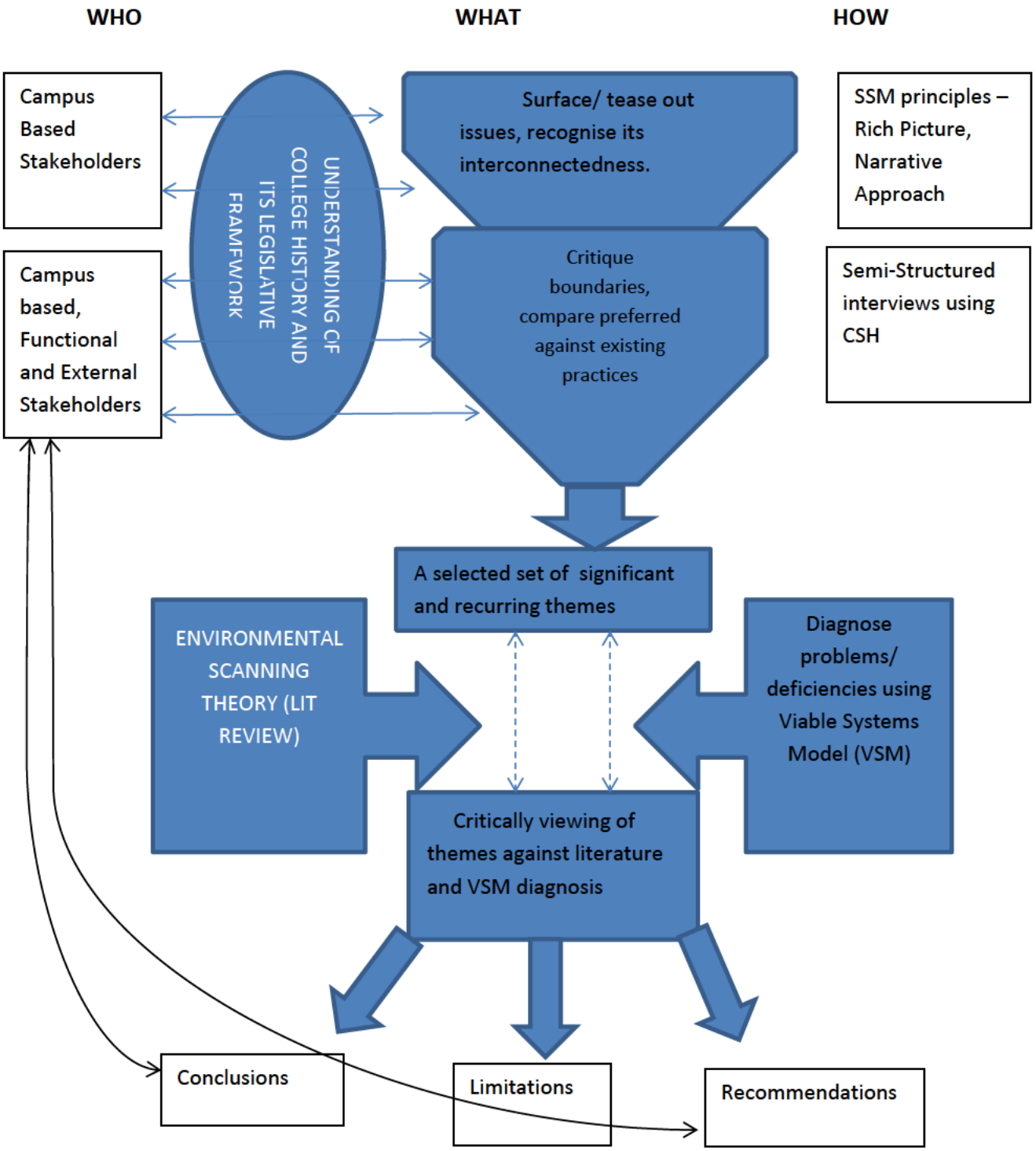
In reflecting on the extent to which the college understands its environment, this chapter has suggested improvements in: areas of leadership, the need for continuous and strategic scanning of the environment, the need for responsiveness of the college to the environment through revised or additional policies and structures inclusive of internal and external networks, the need for increased self-sustainability through alternate funding streams and organisational change and realignment, and the need for a different approach to marketing the college with schools. The VSM has the capacity of incorporating the above recommendations when used in the design mode, as the principles that guide the recommendations are inherent in the design of the VSM.

6.18 OVERVIEW OF THE RESEARCH AND ITS SALIENT ASPECTS

To gain a holistic view of the approach to this research, it would be useful to reflect upon the following illustration (figure 6-1), and trace its progression.

It is evident from figure 6-1 that it was considered significant to have an understanding of the TVET college sector prior to interviewing various stakeholders; in this way, the participants' feedback was contextualised, as well as I, as the facilitator, was able to engage meaningfully. It had been therefore essential that I acquired and consolidated an understanding of the TVET sector. This required appreciating the sector's historical and political context, tracing out its legislative framework and the impact thereof, as well as reflecting on my own lived experiences within the sector. Retrospectively, the background in chapter two, proved essential to this study, as the deeper understanding of the prevailing themes identified in chapter five reflected systemic challenges, interrelated, and interwoven in Majuba College's history.

Figure 6-1: Overview of the Research



(Source: Lakhan)

The option of starting the investigation by selecting stakeholders from campuses provided a cross-section of views that contributed to an initial rich picture. It was justifiably assumed that their proximity to the target markets and inherent roles as implementers would provide the impetus to obtain a rich array of perspectives. It was particularly useful in either verifying or uncovering relevant central office and external stakeholders to include as interviewees. SSM principles and a narrative approach proved appropriate in attaining a holistic view that made the complex relationships more understandable to me and the participants.

The subsequent questions bore the underlying principles of Ulrich's CSH, which further distilled the responses, allowing respondents to reflect and question their own judgements, and select their responses with greater understanding. It also afforded me greater insight into the quality of responses juxtaposed against my earlier insights of the TVET sector garnered through the consolidation of knowledge and experience as reflected in chapter two.

The integration and application of Ulrich's CSH were initially fastidious, but practice revealed that these questions served as footholds for semi-structured interviews, its inherent principles more relevant than dogmatic application. As the research progressed, and certain patterns of results crystallised, the external candidates who were interviewed toward the latter part of the research, were subjected to fewer questions that were nuanced to CSH type questions, only where relevant.

As indicated in figure 6-1, the outcome of the responses of stakeholders led to a selection of themes; it needs to be borne in mind that many themes and challenges arose that might perhaps warrant further exploration in other research work with other areas of focus. For now, the most salient themes were selected on the basis of its relevance to the research question and its impact on the clients ('clients' itself reflects multiple stakeholders, but students, parents, industries and community organisations are significant groupings). The impact is enhanced by those themes that reflect pervasiveness and recurrence.

6.18.1 A REVIEW OF SALIENT THEMES

The most noticeable theme remains the dearth of local research or information gathering. This had led the college to the acceptance of rapidly collated skills information that subsequently impacted on strategic planning and financial decisions. The literature review further reflected

inadequacies in the current use of sector skills planning as research material.

This research not only depicts the inadequacy of local environmental information, but also highlights the culture of acceptance of such inadequacies. Hence, the above theme is inevitably related to the theme of leadership which remains a pervasive and significant area that will require further examination beyond this research. This work has seen senior managers presented as encumbered by DHET's perceived stranglehold on resources, contrasted against their available legitimate power. Leadership is also acknowledged to not only be the domain of senior managers and council members. The shortcomings of leadership are felt in the perception that some other entity is taking care of understanding the local environment, and responsibilities are constantly perceived to be devolved to other layers, while the thrust of understanding the environment lies in fulfilling the administrative responsibilities of applying for the next financial budget.

The disconnect resulting from the above is reflected in the misalignment of the needs of the environment (industries, commerce, local economic development, civic organisations, etc.) with the curricula offerings of the college. The extent to which the college is 'straightjacketed' (a term used by the SMT focus group) into prescribed offerings, as opposed to the inability of the college to adapt programmes and curricula to environmental needs, requires reflection. This work has shown that these two viewpoints are relative rather than absolute, and the overlap presents an opportunity that has led to recommendations.

The above is exacerbated by the de-emphasis of the practical component of courses which, ironically, is perceived as the vanguard of TVET; this is evident in resounding narratives of the downplaying of practical work in the NCV course, as well as the protracted delays in acquiring accreditation for skills courses. This is connected to a variety of other issues, ranging from the shortage of educator posts owing to perceived inadequate post provisioning norms, to the need to minimise deviations in state-protected job definitions, etc.

The scope and strength in Majuba College's understanding of the environment also reside in formal or semi-formal relationships with markets. The absence of a wider range of quality relations is evident not merely in the lack of partnerships, MOUs and linkages, but also the lack of functional structural entities like forums, subcommittees and boards. The structural exclusion of parents has been a prominent narrative.

Interwoven in the above challenges is the recurring narrative of the bureaucratic nature of business and power plays that tend to foreshadow the drive to understand the environment and stymie the urgency of translating any such understanding into a strategic realignment. The chase for student numbers, liaisons with educator unions and the SRC, though relevant, has become a central focus.

In the midst of these challenges, the overlap of markets between the FET phase of Secondary Schools of the GET and TVET colleges presents a conflict wherein the college's potentially best marketers of their programmes are potentially its worst. This paradox presents a significant challenge as high school learners present the biggest market for the college.

6.18.2 A REVIEW OF HOW THEMES WERE EXAMINED CRITICALLY

As reflected in figure 6-1, the selected themes were viewed in terms of the literature review in chapter three, relating to how environments are scanned. The themes, background of chapter two, and literature review were also considered in the diagnosis of Majuba College using the VSM. Several conclusions were made, the more significant being:

- The theory reflects on organisational successes derived from organisations matching their resources to their environments, where such organisations are in a constant mode of scanning the environment. The emphasis of scanning the environment over a protracted period in terms of corporate strategic planning is underscored by the external analysis referred to as 'strategic scanning'. This is in contrast to Majuba college where scanning is more an event, given the short timeframe of less than a month, for gathering of environmental information.

- The theory reflects a need for structural organisation to scan. It reflected upon categorising scanning on successive levels: a broad scan on a macro level, or referred to as the remote environment, and the micro level or task environment. Majuba College relied upon its subsidiaries to provide the micro level locally scanned information; those subsidiaries did not have the structures nor systems to produce such information.

- Practices within corporate and educational environments reflected the use of a broad scan to understand the increasingly complex environment, holistically, while a more pointed local scan can be used to explore the most pertinent leads gleaned by broad based scanning. The fact

that Majuba College does not consciously use broad based scanning to isolate areas for local scanning, within the complexity of the modern environment, implies that its understanding is prone to be ad-hoc, and pertinent markets may be missed.

- The college has a more product-focused than market-focused orientation, whose output is measured by student numbers, pass rates or certification rates, while a market-focused orientation reflects on what the market needs.

- Research reflects that, for any structural arrangement for environmental scanning to be efficient, senior managers have to support it, and that top managers, by virtue of their own strengths or limitations, may promote or impede organisational adaptation borne of scanning. Homogeneity of the top management may exacerbate this problem.

- There exists the need for strength of leadership in several key issues that impact on the college's understanding of the environment. Issues range from: the need for leadership beyond the quest to survive, to the absence of consolidated post provisioning policies that regulate use and expenditure of human resources, and the lack of a drive to install structures and build capacity and participation to understand the external environment to generate networks for self-funding.

- The use of the Boisot model, as well as USI showed that Majuba College is inward focused; this is characterised by an intrapreneurship strategy, implying the existence of less integrated planning.

- The use of the VSM in the diagnostic mode confirmed that Majuba College possessed some of the features that reflected viability, namely the fractal levels as well as the identification of management and operational units, and the existence of auditing or feedback between operations and management. However, the VSM diagnosis confirmed the weakness or absence of a developmental unit at all fractal levels. This reflected disconnect with the external environment, viz. the broader markets and local markets.

6.18.3 A REVIEW OF THE SALIENT RECOMMENDATIONS

Recommendations, as gleaned through engagements with interviewees as well as insights drawn from the literature on environmental scanning:

- A shift towards a market focused orientation is recommended, in line with Kotler's market focused model.
- A structural approach to engaging and researching the environment is recommended, that might be regarded as an organisational re-design. It ought to provide for the setting up of task teams and committees via legitimate existing structures, e.g. the academic board, as well as outsourcing, training and hiring specialists were required (e.g. researchers). The structure ought to promote systems and structures for curriculum adjustments and re-design, as well as responsiveness to external needs.
- Majuba College ought to integrate SWOT with a market focused model such as USI's GE McKinsey Nine Box matrix, in order ensure that the focus of strategic planning is outward.
- It is also deemed significant, in terms of the Boisot model, for an organisation to have a *strategic intent*, beyond having fixed plans, to improve in countering complexity in the environment.
- While an engagement between the GET and DHET is sought to draft a set of cooperative efforts between sectors to alleviate the 'School-TVET paradox', Majuba College may seek partnerships and mutual working agreements with the surrounding schools.
- The final recommendation is to use the VSM in the design mode for Majuba College, which would ensure that the principles to interlock the external environment with the college are taken into account. This recommendation would lead to the fulfilling or replacing of most of the above recommendations.

6.19 A REVIEW OF THE LIMITATIONS OR OPPORTUNITIES FOR FURTHER RESEARCH

Of the limitations that have been pointed out, the narratives and conclusions allude to the need to extend the investigation into the higher fractal level, i.e. the DHET TVET Directorate. Given that the capacity of facilitator-type action research results in shared insights and ongoing learning between facilitator and respondents, the inclusion of key respondents from DHET (TVET colleges) into further research, might allow for an exchange of perspectives between the head office and subsidiaries and allow for accommodations. Such a possibility is important because this research has shown a significant disconnect between colleges and

DHET, as well as have shown DHET to be the most resourced and significant playmaker in the sector.

6.20 SIGNIFICANT CHANGES THAT IMPACT ON THE COLLEGE'S UNDERSTANDING OF THE EXTERNAL ENVIRONMENT, SINCE THE RESEARCH WAS CONDUCTED

The major part of the information gathering took place in 2015, especially the aspects that relate to the college's immediate understanding of the environment. In the latter part of 2016, the following significant changes took place:

- The college conducted its NCV Engineering Level 4 classes for students who had passed all their level 3 subjects, at the Newcastle Training Centre. As discussed in chapter two, this centre is specifically used for the practical training and trade testing of approximately 200 apprentices at any given time. Its operation, till now, has been separated from the rest of the college. It receives its income from bursars of students who are trained, or from the students themselves. The focus of the above initiative is to expose the learners to thorough practical training, infusing such training during holiday periods as well, and exposing the students to the industry culture. The above initiative positively responds to one of the themes identified earlier, that relates to the quality of practical training.

- The college council is playing a greater role in the 2016 strategic planning. While the involvement of leaders taking direct responsibility reflects positively, to some extent, on the themes of leadership identified earlier, the process of planning is still event-based and there still exists an absence of structural and human involvement relating to the collation of information and trends from the local environment, and furthering of strategic conversations and debates, which itself, requires greater lead times.

- During the research, the urgency of acquiring a research component for the college has strengthened. The need for understanding the environment has, through insights gained from dialogue, especially through the CSH based questions, evolved from the need to obtain the services of a researcher to the need of a more structural and inclusive intervention for research, with central and decentralised presence.

- NSFAS bursary provisions for 2016 have been more tightly controlled.

6.21 MY FURTHER ROLE AS RESEARCH FACILITATOR

Beyond the finalisation of this research, a commitment made to interviewees was that my interaction was ongoing and insights will be shared; hence there is fair expectation that my role of facilitator will be ongoing up to a reasonable point where all basic insights are communicated. Key to my exit are closing engagements with stakeholders at the two relevant campuses, SMT representatives and the Department of Labour representative, who anticipate further feedback.

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