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Stakeholders' perceptions of technical, vocational education and training : the case of Kenyan micro and small enterprises in the motor vehicle service and repair industry

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STAKEHOLDERS' PERCEPTIONS OF TECHNICAL, VOCATIONAL EDUCATION AND TRAINING: THE CASE OF KENYAN MICRO AND SMALL ENTERPRISES IN THE MOTOR VEHICLE SERVICE AND REPAIR INDUSTRY.

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USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

Abstract

Technical, vocational education and training (TVET) in Kenya has undergone major changes since colonialists introduced it at the beginning of the twentieth century. Since then, TVET has evolved in the areas of science, technology and innovation to provide skills that will propel the country to middle-level industrialised status by the year 2030. However, current training and development (T&D) processes in Kenya have been criticised for being rigid and irrelevant to industry, creating a mismatch of skills produced by the training institutions and those demanded by the industry; it is upon this criticism that this research is built. The focus of this thesis is to analyse key stakeholders' perceptions of TVET in the micro and small enterprises (MSE) in the motor vehicle service and repair industry (MVRSI). In Kenya vocational education and training (VET) is referred to as technical, vocational education and training—TVET.

In this thesis a practical T&D framework is developed for use to analyse the stakeholders' perceptions. A generic organisational T&D model was examined as was the literature dealing with TVET sub-systems in Kenya and elsewhere. The organisational T&D model was then expanded to include relevant training areas and activities. Data were collected in two cities and four roadside towns. Interviews were held with 19 micro and small enterprises (MSE) employers and 57 of their employees, eight TVET trainers and four senior education officers. Four focus group discussions with final year trainees were held, and observations were made at the MSE and the training institutions. Content analysis was used to analyse data.

Findings obtained indicated that TVET plays a vital role in furnishing its learners with skills that are required in the MVRSI. However, while the T&D program has very well crafted training objectives, it is beset by numerous challenges. The program has restricted methods of data gathering resulting in a system that has neither been able to compile an industrial skills inventory nor a skills-gap analysis that would inform training providers. Most training institutions are located in urban centres, curriculum implementation is generally theoretical, trainers are inadequately prepared and receive low salaries, training suffers from multiple and uncoordinated management, and the trainees view it as a last training option. In addition, examination results, enrolment and practical tests were identified as the primary methods used for monitoring and evaluation. Informal training providers lacked training implementation, monitoring and evaluation structures. Transfer of skills from training institutions to the workplace is inhibited by insufficient supervisor support, poor working conditions and inadequate tools and equipment.

The T&D framework that was developed was found to be useful on several fronts. Firstly, the views of multiple stakeholders present diverse perspectives that provide unique and comprehensive insights into how different segments of society measure the same training. Secondly, methodological contributions have been made in terms of the research design, which used multiple data collection methods. Thirdly, the T&D framework was developed and then used to analyse the perceptions of the stakeholders, thereby answering the research questions. Since this framework was found to be sufficient for analysing the stakeholders' perceptions, it was found to be appropriate for designing a more responsive T&D program for the MVRSI. In addition, this study has made several practical implications.

Declaration

I certify that this thesis does not, to the best of my knowledge and belief:

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Definitions of terms

Informal sector

Refers to small-scale enterprise and the *jua kali* sector. The sector consists of micro and small enterprises with 1-50 employees.

Jua kali

The term *jua kali* literally means "hot sun". It is used colloquially to refer to enterprises that specialise in the manufacture of products, or providing productive services in an informal way. The term is indicative of the severe conditions under which the enterprises operate (Orwa 2007).

ISCED

International standard classification of education. A set of international educational classifications – the ISCED 1997; The ISCED levels ascend from Level 0 to Level 6, where Level 0 refers broadly to pre-primary education, Level 1 to primary education and Level 6 to advanced research qualifications

Micro and small enterprise

Micro enterprises employ between 0–5 workers, whereas *small* enterprises have 6–20 workers (GoK, 1999). For this study micro and small enterprise (MSE) will comprise 0–20 employees.

On-the-job-training

This is the process of learning by doing a task. It takes place at an ordinary work site in both formal and informal sectors. The trainer demonstrates the required quality of performance to the trainee and coaches him or her through a task. The trainee learns by observing and assisting the trainer in producing a product that is sold to customers.

Self-employment skills

These are skills related to small businesses management and operation, such as business planning, marketing, bookkeeping, inventory control, public relations, time management, costing and pricing.

T&DNA

Training and development needs assessment. This is the first phase of a training and development model that comprises training needs analysis and training objectives

TIVET   Technical, industrial, vocational and entrepreneurship training
                 (TIVET). This is a term that was in use in Kenya in the last
                 decade. The term has since been revised to exclude the industrial
                 component.

TVET   Technical, vocational and entrepreneurship training. In this study
                 TVET will be used to describe vocational education and training
                 in Kenya,

VET   VET will be used in this thesis to generally refer to vocational
                 and education training programs in other parts of the world.

Acronyms

ABS   Australian Bureau of Statistics

ADB   African Development Bank

AIDS   Acquired immunodeficiency syndrome

ANTA   Australian National Training Authority

AU   African Union

BoG   Board of Governors

CEDEFOP   European Centre for the Development of Vocational Training

DIT   Directorate of Industrial Training

EFA   Education for All

ERS   economic recovery strategy

FG   focus group

FKE   Federation of Kenya Employers

FPE   Free Primary Education

GoK   Government of Kenya

GPS   Global Positioning System

ISCED   International standard classification of education

IT   Institutes of Technology

ITC   Industrial Training Colleges

KAM   Kenya Association of Manufacturers

KESI   Kenya Educational Staff Institute

KASNEB   Kenya Accountants and Secretaries National Examination Board

KESSP   Kenya education sector support programme

KEPSA	Kenya Private Sector Alliance
KIE	Kenya Institute of Education
KIM	Kenya Institute of Management
KNBS	Kenya National Bureau of Statistics
KNEC	Kenya National Examinations Council
Ksh.	Kenya shilling equivalent to USD 0.0125.
KTTC	Kenya Technical Teachers College
MDG	Millennium Development Goals
MoE	Ministry of Education
MoEST	Ministry of Education Science and Technology
MoHEST	Ministry of Higher Education Science and Technology
MSE	Micro and Small Enterprises
MVRSI	Motor Vehicle Repair and Service Industry
NDP	National Development Plan
NGO	Non-Governmental Organisation
NP	National Polytechnic
NQF	National Qualification Framework
PTTO	Provincial Technical Training Officer
QASO	Quality Assurance and Standards Officer
T&D	Training and Development
T&DNA	Training and Development Needs Assessment
TNA	Training Needs Analysis
TVET	Technical, Industrial, Vocational and Entrepreneurship Training
TVETA	Technical, Vocational and Entrepreneurship Training Authority
TSC	Teachers Service Commission
TTI	Technical Training Institutes
UNDP	United Nations Development Programme

UNESCO   United Nations Educational, Scientific and Cultural Organization

UNEVOC   International Centre for Technical and Vocational and Training

VET   Vocational Education and Training

YP   Youth Polytechnic

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CHAPTER 1   INTRODUCTION

The aim of this study is to analyse stakeholders' perception of vocational education and training in the micro and small enterprises (MSE) in the Kenyan motor vehicle repair and service industry (MVRSI). This examination is undertaken from the perspective of five key stakeholders: MSE employees, MSE employers, vocational education and training (VET) institutions' trainers and trainees, and education officers. The purpose of this chapter is to outline the rationale and questions that frame the study. The chapter encompasses nine sections, namely: research background, training and development (T&D) models, the MSE sector, justification of the research, statement of the problem, the research questions and methods, the theoretical contributions, the thesis structure and, finally, a note on the changes that have taken place in Kenya during the course of this research.

1.1   Research background

VET can be broadly interpreted as the development of ways of learning and the acquisition of attitudes that facilitate success at the workplace (Munro, 2007). The aim of VET is to contribute to equity and access to training, and social responsibility by stimulating competitiveness and entrepreneurship to realise life-long learning concepts (Masson & Fretwell, 2009). VET plays an important role in supplying skills requisite for improved workers' productivity, economic competitiveness, occupational integration, raising income levels and expanding opportunities for employment (Bennell, 2000; Budría and Telhado-Pereira, 2009). In addition, formal education and work experience in the formal business sectors enables employers and business owners to improve methods of production, enhance product quality, convey quality information to the users, identify markets, and manage human and other resources, all of which offer students a competitive edge (Sonobe, Akoten, & Otsuka, 2011).

VET encompasses on-the-job training, apprenticeships, vocational secondary schools, sector-specific VET institutions, and vocational pathways within comprehensive schools (Rodgers & Boyer, 2006)—aspects which can serve as a practical and effective ways of skills upgrading. Moreover, it has been established that VET graduates with job-specific skills have a higher potential of being more productive and more equipped to execute tasks for which they have been trained (Rodgers & Boyer, 2006). For instance, countries such as South Korea, Taiwan and Japan invest highly in vocational school systems to address challenges brought about by a scarcity of skilled workers (Tilak, 2003). These countries have introduced stringent quotas and entrance examinations to limit university enrolment figures and encourage enrolment in the VET system.

As a result they have had accelerated industrial and economic growth, due to a vibrant, skilled middle-level workforce.

As identified above, VET is practised throughout the world through different programs with varying time durations and with varying structures. In addition, it often has different acronyms and phrases, which has the same meaning. For example while some countries simply refer it to VET, others opt for (TVET)—Technical, Vocational, Education and Training; and others to TVE-—Technical, Vocational Education. A new term that coves both vocational education and skills development is TVSD— Technical and vocational skills development, which refers to the specifically work-oriented skills acquisition, taking place in multiple locations (King, 2009). The Kenya government uses the UNESCO accepted acronym and abbreviation TVET, which will be used in this thesis to refer specifically to the Kenyan program. In addition, the acronym VET will be used when discussing the general vocational training system in other parts of the world.

1.1.1   VET in Kenya

As identified above, in Kenya VET is referred to as Technical, Vocational, Entrepreneurship Training (TVET), which Atchoarena and Delluc (2001, p. 3) identified as ". . . education which mainly leads participants to acquire the practical skills, know-how and understanding, necessary for employment in a particular occupation, trade or group of occupations". Such skill development is important as factors such as structural adjustment programs, new technological and scientific processes, international competition (Fluitman, 1999) necessitate workers with higher-order skills. Further, TVET contributes to sustainable development and is recognised as a priority area of development intervention, as reflected in the following examples of key Kenyan government policy documents: *Economic Recovery Strategy Programme* (*ERS) for wealth and employment creation:* 2003-2007 (Government of Kenya [GoK] 2003a), and *Kenya Vision 2030* (GoK, 2007).

TVET incorporates technical training institutions (TTI), youth polytechnics (YPs), MSE training and demonstration centres, and national youth service skills development centres (Nyerere, 2009). TVET programs are offered in YP, TTIs, institutes of technology (ITs), national polytechnics (NP), Technical universities and numerous other institutions spread across government ministries, as well as private training institutions (Ngerechi, 2003). At the end of the training period, TVET graduates acquire certificates or diplomas in various disciplines, while university graduates from the Technical Universities of Kenya and Mombasa are awarded technical degrees. In this thesis, TVET will be used to refer to vocational pre-employment training provided to both young people

and mature learners in a structured training environment with the aim of acquiring job-related skills and competences. In addition, informal and lifelong learning will be studied to form the basis of a comparative argument.

TVET needs to respond to numerous challenges, such as a rapidly increasing in population, growing youth unemployment, the high cost of education against stagnating resources, rural urban migration, rising social and economic insecurity, reduction in jobs due to economic liberalisation and new technologies, as well as the people's clamour for accountability (Barasa & Kaabwe, 2001). In addition, the impact of HIV/AIDS in Africa has necessitated an emphasis on skills development to replace those lost across different occupations as the virus drains scarce and productive human resources (Nyerere, 2009). These challenges affect the quality, relevance and accessibility of skills and the TVET program lacks the capacity to respond to them in a timely manner.

Skills development in Kenya is important for economic development, poverty mitigation, and social inclusion. Despite this important role that TVET plays in addressing labour challenges, in major policy documents there lacks an explicit approach by which this role can be achieved (Nyerere, 2009). This failure to fully embrace the role of skill training is particularly baffling because most African governments and donor countries are consistent in emphasising the need for intensive structures that shape the human capital of the marginalised (UNESCO-UNEVOC, 2008). Bennell (2000) observed that since the late 1980s, most African governments have accorded limited significance to donor financing systems and dialogue, leading to limited inclusion of VET in mainstream education systems. However, funding has to go hand in hand with other strategies such as building trainers capacity as there is a challenge of ensuring that once resources are availed in training institutions, they are used effectively to promote skills acquisition (Tikly, 2010).

Introducing VET at primary and secondary schools enables students to gain skills early in their lives. Some developed and developing countries, such as Italy, Brazil, China, Sweden and Japan, fund VET programs sufficiently and, as a result, primary and secondary students are exposed to vocational training and to a culture of scientific investigation and application at an early age (UNESCO, 2009). In Europe (e.g. the United Kingdom (UK) and Belgium), at least 50 per cent of the students in upper secondary education pursue some form of technical or vocational education; in China, India and South East Asia the figure is 35–40 per cent; however in Africa it is less than 20 per cent (in Kenya, Zambia and Sudan the figure is less than four per cent) (AU, 2007).

3

Statistics suggest that there is high correlation between a country's GDP and the percentage of technical/vocational enrolment in secondary school. For example, countries such as Australia, Belgium and the UK, which have very high percentages of technical and vocational secondary school enrolment also have very high GDP per capita; whereas countries in Africa like Eritrea, Malawi and Niger that have very low percentage of secondary school enrolment have correspondingly very low GDP per capita (UNESCO-UNEVOC, 2008). There are exceptions however: United States and Ireland, which have high GDP per capita, do not have secondary vocational education; while Suriname and Panama are middle-income countries with very high percentages of secondary school vocational education enrolment. Thus although the relationship between a country's GDP and the percentage of secondary school enrolment is a good measure of VET success, other factors may play a part. These comparisons are presented in Figure 1.1.
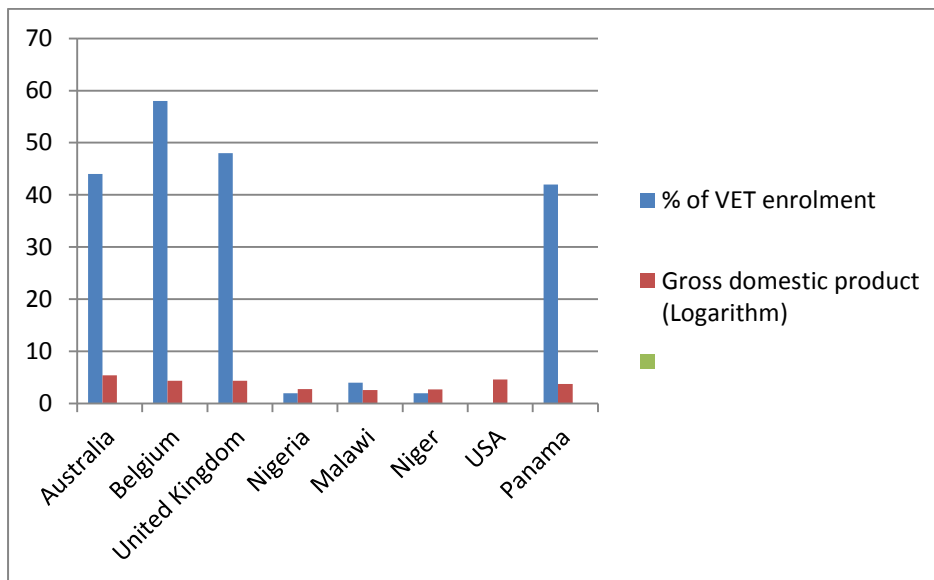
Figure 1.1   Comparison of percentages of VET in secondary school and GDP per capita (logarithm) 2002 in some selected countries.

Source: UNESCO Institute for Statistics database, 2005.

VET is a focus of the International Labour Organisation (ILO), where main focus is on the employment and the welfare of workers. UNESCO considers VET as an integral part of the 'Education for All' global initiative. There is a growing consensus that education and training are generally inseparable, "especially as the notion of a job for life is being replaced by the necessity for lifelong learning" (UNESCO/ILO, 2002, p. 3). In practice, the formal education system inculcates the educational component of VET, while training programs are more closely allied to

the labour market. It is however, difficult to clearly demarcate the two systems with such diverse examples "as the German dual system, England's modern apprenticeships or the Botswana Brigades" (UNESCO-UNEVOC, 2007 p. 5).

1.1.2   Process of vocationalising the Kenyan education system

Kenya attained independence from the British in 1963, and the Post-colonial Kenya realized the need to introduce a relevant vocational education program to its primary and secondary school students, to not only equip them with vital skills, but also to transform the vocational courses' poor image. This is because during colonialism, vocational and technical courses had hitherto been reserved for Africans in preparation for servitude (King, 1987). The process of introducing vocational education to the secondary school curriculum followed recommendations of the 1976 *National Committee on Educational Objectives and Policies* (GoK, 1978). The Committee recommended the

> " restructuring of the education system in order for it more effectively to meet basic needs and promote income earning opportunities for school leavers, a change in the attitudes of pupils in favor of agriculture, crafts and productive manual labor and pre-vocational skills that would stimulate self-confidence and creativity related to self-employment" (Mwiria 2001, p. 2).

The education system, which followed that of the British 7-4-2-3 (seven years in primary school, four in lower secondary, two in high school and three in university) was changed to the American 8-4-4 system (eight in primary, four in secondary and four in university) following *The Report of the Presidential Working Party on the Second University in Kenya* (GoK, 1984). Under the 8-4-4 system, the curriculum was expanded to include practical subjects such as agriculture, home science and industrial courses, with the aim of enhancing the transition of secondary school graduates into the world of work, as well as giving them opportunities for further training in relevant post-secondary training institutions (Mwiria, 2001). In 1999, another commission on education system in Kenya, *Totally Integrated Quality Education and Training (TIQUET); Report of the Commission of Inquiry into the Education System* recommended an additional responsibility:

> " **. . .** a core of generic skills that would aid the graduate to better communicate, work in teams with less supervision, use information technology to access new ways of doing things, promote entrepreneurship education that has become invaluable to those in paid employment or in self -employment**...**and the ability to be creative, innovative as well as an intrinsic initiative for problem-solving**"** (GoK, 1999b: 146-147).

This Commission was ambiguous on how many vocational subjects could be taught in schools, recommending instead for a reduction of vocational subjects and specifically for the scrapping of industrial courses from the secondary school curriculum. In effect, this commission could have been the genesis of the mutilation of the 8-4-4 system from its original form and intended role. Currently, most secondary schools in Kenya offer applied education subjects of agriculture, business, home science, while only a handful of them teach industrial and computer courses (UNDP, 2010).

The change from the British to the American education system was meant, among other aims, to introduce learners to vocational education early in their education. The implementation was, however, done hastily without adequate preparation, and, lacked clear and acceptable objectives. Implementing the 8-4-4 system was a herculean task for most Kenyan schools with the inclusion of practical subjects, which called for different human and physical resources (Mwiria, 2001). Because of the political nature of the 8-4-4 introduction, the program was not piloted, but was marketed as the new and only way to deal with employment issues; completely ignoring previous research and debates (e.g. Foster, 1965), which caution the naivety of assuming that education creates employment. To deal with human resource issues the government hastily launched in-service training programs for selected teachers that lasted for only one week, and these teachers were in turn expected to train their colleagues. In addition, new teachers some of whom were untrained were recruited to fill the teaching gaps; compromising the quality of instruction (KIE, 1995). At the monitoring level, new school inspectors and those already in the role faced difficulties with the newly introduced subjects. Infrastructure such as workshops, laboratories, books and other equipment relevant to the new subjects proved to be too expensive for most schools.

The 8-4-4, was never really accepted by Kenyans, most of whom viewed it as a burden, demanding huge expenses imposed on them by politicians.. This heavy disapproval of 8-4-4 culminated in the exclusion of most vocational courses from the secondary school curriculum; to the relief of parents and head teachers (Mwiria, 2001). The contradiction between the Kenya government stated aims of TVET and the commitment of implementing the program has conflicted with messages from UNESCO-UNEVOC (2008) and other researchers such as King (2007), and questions the commitment of the country to VET, despite Kenya aspiring to use it as a vehicle for industrialisation.

1.2   Training and development models

A T&D program recognises the intricacies and interrelationships between different elements that influence it, be they political, socio, environmental, legal, economic or technological. The program requires adequate planning, execution of the training activities and an effective evaluation process. This can be achieved through the development of a suitable training and development (T&D) model, which can act as a guide for training providers and assessors. In this study, an organisational T&D model has been adapted from various sources, such Armstrong (2009), Stone (2010), Beardwell and Claydon (2009), and Cascio, (2010). The model shows how different training activities relate to each other, as well as the contribution of each phase to the overall success of the T&D program.

Different organisations make use of a systematic T&D model, which has three phases: training and development needs assessment (T&DNA), training activities and training evaluations. According to Wargonhurst (2002) and Cekada (2010) these three phases are sufficient for use by different organisations. It is proposed in this study that the organisational T&D model can form a structure that can be expanded to a particular industrial level by including pertinent components that influence that particular industry. Thus, each phase of the organisational model will be customised to reflect T&D issues in the MVRSI which are analysed in Chapter 2. The effectiveness and efficiency of a training program is enhanced when it is planned in a logical sequence. An effective T&D program, which is one van Eerde, Tang and Talbot (2008) describe as raising the level of and range of workers' competencies to improve performance has three phases: T&DNA, which comprises a training needs analysis (TNA) and training objectives; establishing the training activities; and evaluating the training (Armstrong, 2009; Stone, 2010; Cascio, 2010). The T&DNA phase provides direction and purpose for the training effort by seeking to determine what is needed, by whom, when and where, leading to objective formulation; in the activities phase, training methods and learning principles are selected and used; whereas the evaluation phase measures how well the activity met identified objectives (Stone, 2010; Cekada, 2010)

Although the three phases of an organisational T&D model can be used in a wide variety of programs at the organisation level, developing a framework at the industry level requires adopting components that are important for that specific industry. For example, VET objectives in the African context differ substantially from those of the developed world. McGrath (2011) notes that while the developed world views VET in the light of competitiveness and inclusion, African governments' interest lies in solving unemployment and poverty through the training program. As

Robertson et al. (2003) caution training in Africa should not mirror the industrialised nations, but should be tailored to the African context. For example, poverty mitigation interventions can only be successful when based on an understanding of a specific community's social change processes, to form a foundation for generating and using knowledge to respond to poverty issues at both local and national levels.

In addition, factors such as financing VET programs, trainer shortages and poor perceptions of the training program call for innovative ways to make the training more attractive to the wider society (King, 2007; Barasa & Kaabwe, 2001). Moreover, ways of integrating informal learning and, which trains most of the workers, and the formal learning which has a structure would harmonise the two programs for better results (Kitainge, 2004a; Barasa & Kaabwe, 2001; Wachira et al., 2009). In this study the three phases of an organisational T&D model will be expanded through adding elements that are important for developing a more responsive program for the MVRSI in Kenya. These will be presented in more detail in Chapter 3 and Chapter 4.

1.3   The MSE sector

The focus of this study is on skill development for workers in MSEs in the MVRSI industry. In Kenya, MSE usually employ less than 20 workers. Specifically, *micro* enterprises employ between 0–5 workers, whereas *small* enterprises have 6–20 workers. The MSE sector is very vibrant in Kenya, which, according to the 2009 census, employs 8.2 million of the workforce, compared to only 2.8 million in the formal sector (GoK 2010a). Out of the 8.2 million, 6.1 million (75 per cent) are employed in the *jua kali* sector, which is characterised by strong social relationships and associations (Kinyanjui, 2011) but operates under difficult conditions, such as poor sanitary facilities, ramshackle structures, poor waste disposal and a lack of water and electricity (Theuri, 2012; Orwa, 2007). Despite the sector's contribution to labour dynamics, MSE employment capacity has faced challenges in the form of poor infrastructure, high cost of production and credit, increased competition from cheap imports, and inadequate tools and equipment (Lutta-Mukhebi, 2004).

To be competitive in an ever-changing global and national environment, the MSE demand the initial VET systems to produce high numbers of young people who are adaptable and able to learn job-related skills quickly, and lifelong VET providers who offer bespoke, short, specific, tailored, onsite training courses that meet their immediate skill requirements. Thus a blend of initial vocational training and on-going refresher and updating courses are a requisite mix. It has been widely acknowledged that more trainees are engaged in informal sector training than in all formal

TVET institutions in Kenya—for example, Barasa and Kaabwe (2001) put the figure at 71 per cent. Informal training involves learning through observing and doing, and it allows the transmission of the prevailing skills and practices with or without minimal, external resources (Wachira, Root, Bowen & Olima, 2009). With this kind of skill transfer the instructor's ability to offer training is confined to his current skill levels and knowledge, which often results in low productivity (Ziderman, 2003). Thus, most learning in Kenya occurs at the workplace through the tutelage of MSE managers or supervisors, and non-experts such as colleagues or clients (King, 1987). Authors who advocate informal training, such as Hans (2002), cite its advantages of low cost and short training duration; however, it can result in lack of theoretical knowledge, the transmission of bad practices from the trainer to the trainee and restricted pedagogy (Wachira et al., 2009). Wood (2007) proposes the integration of institutionalised (formal) and non-institutionalised (informal) education into a coherent system where they supplement each other to resolve the challenges that informal learning faces.

Nevertheless, informal learning is practised and recognised the world over. For instance, in Australia informal workplace learning is particularly important for small enterprises because a considerable number of the workers acquire skills in and around the workplace through observation, tutelage and through different experiences and challenges at the workplace (ANTA, 2003). This is also true across smaller firms in other parts of the world (Golding, Brown & Foley, 2009)

Although the majority of MSE employers in Kenya take part in informal training, studies have shown that most MSE owners do not have sufficient decision-making training or experience, with the typical owner–manager developing their management approach through routine trial and error (Barber, 2003; Bowen, Morara & Mureithi, 2009). Thus, they rely largely on an intuitive management style and they are concerned with daily processes rather than long-term decisions and strategic activities. The lack of managerial capability means MSE owner–managers may be inadequately prepared to adjust to environmental changes. Low levels of education have been observed as contributing to the failure rate of some Kenyan MSE (Bowen et al., 2009). Conversely, more knowledgeable employers are likely to be more productive through the ability to focus on activities that are more profitable, and are also more likely to be innovative (Sonobe et al., 2011).

As shown above, workplace training is the major contributor to labour capital world-wide. However, the competency of the MSE trainers is compromised by their low levels of education and poor attitude to their own skills upgrading, which Bishop (2008) attributed to perceived

economic factors such as training fees, restricted time and qualified personnel. Further, the limited capacity of employers to manage their businesses (and particularly human resources) may contribute to the poor transferability of skills acquired by formal TVET graduates from the training institutions. Since the aim of this study is to examine the skill acquisition processes for the MVRSI in Kenya, reviewing literature that relates to this sector of the economy has been vital to the understanding of the T&D activities that take place therein.

1.4   Justification of the research

In 2003, the Kenyan government held an education stakeholders' workshop, which culminated in a document entitled *Kenya Educational Support Sector Programme* (KESSP) (GoK, 2005). The document identified 23 'public investment programs', which addressed key areas of education and training to be implemented over the subsequent five years. On the subject of TVET the document noted:

> Every year, more than 500,000 candidates sit for Kenya Certificate of Primary Education, but only 45per cent or 225,000 primary school leavers proceed to secondary school while the rest join the youth polytechnics and the informal sector. At the end of the secondary education cycle, about 20,000 of the nearly 200,000 candidates join universities (public, private, overseas), while the rest are catered for by middle level colleges offering TIVET programmes. . . . this is a target group whose skills development will have to be enhanced through a well-harmonized, flexible and demand driven TIVET programme (GOK, 2003b, p. 50).

In the KESSP document, it was observed that, despite the enormous gains that had been made in TVET development in the preceding 40 years, the absence of a legal framework and a lack of a cohesive strategy had impacted negatively on the progress of the sector. The result was poor coordination and discrepancies in the training programs, and the consistent production of graduates without appropriate skills. In addition, the document noted that TVET had suffered low levels of funding which had aggravated the challenges it faced. The document further highlighted the issues and constraints faced by this sector.

- inflexible and outdated TVET curriculum
- mismatch between the skills learned and the skills demanded by industries
- inadequate mechanism for quality assurance
- inadequate physical facilities for training, coupled with lack of sufficient modern equipment
- expensive training materials and textbooks

- low participation of private sector in curriculum design and development. (GoK, 2005, p. 213)

From 2005 to 2010 the government embarked on implementing 23 investment programs identified in the KESSP document. Data for this study were collected between December 2010 and January 2011; at that stage a summative evaluation of KESSP was not available. Further to the KESSP document, in 2007 the Kenyan government prepared a long-term (25 years) vision to realise the country's economic, social and political development. The prepared vision led to a blueprint document named *Kenya Vision 2030*, which was deemed a vehicle for fast-tracking the improvement of the country into an industrialised middle-income economy by the target year of 2030 (GoK, 2007). On the issue of education and training the document noted the following under the subject of relevance:

> Relevance: Matching skills to market demand. This is a challenge at all levels. . . . However, the training at this level has been hindered by inadequate facilities as well as institutions: hence most young people end up in the informal sector. This problem, the mismatch between the level of skills imparted by the education system as a whole and the requirements of the labour market, must be corrected in order to meet the demands of the new economy. (GoK, 2005, p. 22)

The weaknesses of T&D programs identified in these documents and the prevalence of informal training drives the present study. By assessing the gaps between the skills taught in the vocational institutions and the skill needs of the industry through analysing different stakeholders' perceptions of the training program, and the development of a T&D framework to analyse these perceptions, this study suggests ways to develop a more demand-driven curriculum for the MVRSI. Indeed, the KESSP document highlighted the "low participation of private sector in curriculum design and implementation" (GoK, 2005, p. 24) as one of the constraints in need of attention; this study is part of addressing this important call.

In *Kenya Vision 2030* and the KESSP document, the need for TVET to deliver relevant and appropriate skills to the industry has been recognised. *Kenya Vision 2030* further highlighted the mismatch between the skills TVET was producing and skills the industry needed. This suggests a gap exists in identifying the skills the industry requires. As noted earlier, identifying appropriate training activities requires a systematic T&DNA, which comprises a TNA and the formulating of appropriate objectives based on those needs. Muhammad and Rashid (2011) identified four important steps of a TNA in a vocational training program: (1) diagnosing the discrepancies among performance standards, (2) ranking the inconsistencies by prioritising them in order of importance, (3) finding out the causes of the inconsistencies, and (4) deciding if training is the

solution to the inconsistency. If training providers follow these four steps consistently, there is likelihood that the T&D will be appropriate to address vital areas of the training process.

In an ideal T&D model, the identification of training needs is followed by designing training activities and choosing appropriate methods to implement the content and curriculum. On completion of the training, trainees are expected to join the job market where their performance is evaluated against set targets. The results of this evaluation forms the basis of more needs identification, which guides the next training cycle. However, as the Kenyan government documents show, the effectiveness of the TVET has been problematic. This thesis therefore develops a framework of T&D through an examination of the gaps that exist between training needs and the demands of the MVRSI industry.

1.5   Statement of the problem

Bennell (2000); Bowen, Morara and Muriithi (2000) and Nyerere (2009) observe that in most developing countries VET is a sub-sector of the education system that generates little attention or budget provision, resulting in poor infrastructure and insufficient facilities. In Kenya, under-investment in skill training for institutions such as YPs results in understaffing, a lack of or obsolete physical infrastructure (workshops) and poor quality tools, leading to low-quality education that is not synchronised with the requirements of the labour market or local livelihoods (Nyerere, 2009). Thus, TVET graduates face numerous challenges in the workplace because they lack the skills needed by industry.

Discrepancy of skills acquisition between the training institutions and the industry is a challenge that the Kenyan government needs to address to realise improved productivity from TVET graduates if economic progress is to be achieved (Kitainge, 2003a; United Nations Development Programme [UNDP], 2010; Wachira et al., 2009). As TVET competes for limited public resources, it is critical to ensure the training system meet the country's expectation (Fretwell, 2003). Indeed, *Report of the Presidential Working Party on Education (*Kamunge, 1998) *and Manpower Training for the Next Decade and Beyond* and Koech's 2000 *Commission of Inquiry into the Education System of Kenya* both called for education that emphasised relevance, access, quality and the introduction of TVET in the education system to enhance social development and equity. However, the government seems unwilling or unable to fully implement the recommendations in these reports (Kitainge, 2003a). Furthermore, translating skills development into skills utilisation, and therefore economic growth and poverty reduction, is dependent on

various factors like quality of education, supportive environment, facilitative infrastructure and a conducive work environment (Tikly, 2010).

Over the past years, the GoK has formulated policies that address the constraints facing MSE, as seen in *Sessional paper No. 2 of 1992 on Small Enterprise and Jua Kali Development in Kenya (1992)* and the *National Development Plan* (GoK, 2002). But the policy notes that results for MSE on-the-job training were not based on empirical data. For example, although the *Development Plan 1984–1988* (GoK, 1984) positively identified and incorporated the informal MSE sector into the overall fiscal planning, its affirmations of the vital role played by the sector to employment creation were largely rhetorical (Barasa & Kaabwe, 2001). While in the consecutive *Development Plan 1989–1993* (GoK, 1989) the government gave special recognition to the *jua kali* sector, it also acknowledged that this sector had been neglected and its contribution to job creation and income distribution had not been recognised.

The GoK however acknowledges the importance of the MSE sector, as shown in the report entitled *A Strategy for Small Enterprise Development in Kenya Towards the Year 2000* (GoK, 1999). This report called for in-depth research on specific target groups in the informal sector to determine their training needs. A number of scholars have responded to this call with empirical research, for example Kitainge (2003a), *Voices of the Stakeholders: A Case of Power Mechanics in Kenya*; Barasa and Kaabwe (2001), *Fallacies in Policy and Strategies of Skills Training for the Informal Sector: Evidence of the Jua Kali Sector in Kenya*; and, Bowen, Morara and Muriithi (2009), *Management of Business Challenges Among Small and Micro Enterprises in Nairobi-Kenya.* While these scholars have made progress in advancing understanding of training in MSE through empirical evidence, there is still more to be known about skills acquisition. This is apparent in government documents such as the *KESSP* (GoK, 2005) and *Kenya Vision 2030* (GoK, 2007), which exposed skill shortages across industry.

This research seeks to build on the above reports and research papers by developing a T&D framework and using it to examine multiple key stakeholder perceptions of the T&D system in one industry sector heavily reliant on TVET education." This is because as Wagonhurst (2002, p. 79) notes,

> Training programs can be tremendously effective when specifically tied to business strategies, when developed specifically in response to data compiled from the comprehensive needs assessment, when methodologies emphasize skill development and learner involvement, and when they are not considered a magical solution for every performance problem.

In addition, as Newman (2001) argues tackling social and policy issues in public service delivery is best done through involving a broader range of stakeholders, leading to improved policy steering. Policy steering recognizes that governments realise that they cannot solve complex social problems on their own and therefore the need to involve other interested parties. This study intends to gather data from multiple stakeholders to advance the social, economic and political discourses in the MVRSI skill training.

For the purpose of a comprehensive study, the research will be limited to the MVRSI, which is a skill-based industry employing mechanics, tuners, welders, electricians and tailors. TVET is a vital means of acquiring skills for these trades. Moreover, this segment of industry is important because owning a car in Kenya is a status symbol and therefore many people, especially the middle classes, go to great lengths to acquire a car irrespective of its age or mechanical condition. Relatively 'new' cars are most likely to be imported as a reconditioned model, which requires ongoing repair and services. The poor state of the roads and the alarming rate of accidents (GoK, 2003c) compound problems for motor vehicle owners in Kenya. Due to a combination of these factors, the MVRSI is a thriving industry, and it is not uncommon to find a six-acre yard (e.g. Kigandaini in Thika town) with several small open-air garages in towns across Kenya (Kinyanjui, 2000).

1.6   The research questions and methods

To gather data from the MVRSI and other stakeholders, this study was guided by an overarching research question (RQ), which provided the foundation on which the research is built. This approach is supported by Blaikie (2008), who observed that by making choices through exploring research questions, the direction and focus of a study are clearly defined, and results can ultimately be obtained. To understand training processes in this study, a framework of an effective T&D program for the MVRSI with three phases is developed from that of an organisational T&D model. The overarching RQ is broken into four subsidiary questions:

RQ   *From the perspective of key stakeholders, how relevant are the skills and knowledge of TVET graduates to the needs of the micro and small enterprises in the MVRSI in Kenya?*

RQ (i)   What type of skills do the micro and small enterprises in the MVRSI require?

RQ (ii)   What types of skills are presently being offered through TVET for the micro and small enterprises in the MVRSI in Kenya?

RQ (iii)   Are there gaps that exist between the skills developed and the needs of the industry?

RQ (iv)   If there are gaps, how does the industry address them?

Data required to answer the above RQs were gathered used the three phases of the T&D model as a guide from a cross-section of stakeholders in the MVRSI. The following key stakeholders were involved in the research: MSE employers and employees, TVET institutions trainers and trainees, and education officers. In addition extensive literature of government policy documents and past research papers were reviewed.

In this study an interpretivist view is taken to inquire into the respondents' opinions, experiences and interpretations of the contribution of TVET programs to job-related skills and competencies. An interpretivist view presupposes that access to reality, that is itself socially constructed, is primarily done through social interactions by construing members' shared meaning, language, experiences and consciousness (Myers, 2009). With a view to understanding this "reality", data were gathered through interviews, focus group discussions and observations. These methods are discussed in detail in Chapter 5.

Data gathering by the researcher occurred in towns and cities on the main Nairobi–Uganda highway (see Appendix 1). Employers and employees offered insights into the TVET graduates' employability based on the skills acquired at the training institutions. These informants were interviewed in five enterprises in Ongata Rongai town, three in Nairobi city, one in Nakuru town, one in Gilgil town, four in Kisumu city, three in Busia town and two in Mumias town. Factors used to select these businesses included the size of the enterprise (measured by the number of employees), the size of the premises and the sophistication of the machinery used to carry out service and repair. In total, 19 business employers took part in the study. Fifty-seven employees, who were purposely selected according to their gender to represent diverse opinions, the type of pre-employment training (either formal or informal) and the level of training acquired (trade tests, artisan, craft etc.), also participated in the study.

Once data were gathered from the MSE, the next targeted group of stakeholders was the TVET trainers and instructors. Having reviewed extensive literature, the researcher did not expect any difficulties in identifying training institutions for this study. However, the different terminologies, training levels, and the multiplicity of providers actually made the choice very challenging. For instance, although they appeared to have different identities, the TTIs and ITs operate under

similar conditions and offer the same courses. It was later established that while the ITs were established through community initiatives, the TTIs were former technical schools that the government had upgraded to address skill shortages in the industry. The examination levels and certification further compound the problem of selection. For example, some courses are examined by the Kenya National Examinations Council (KNEC), others by the Directorate of Industrial Training (DIT) and the Kenya Accountants and Secretarial National Examination Board (KASNEB), yet others are examined by foreign bodies such as City and Guilds or Pitman (originating from Britain).

To comprehend the TVET system in Kenya, it was also necessary for the researcher to collect data from education officers. At first it was assumed that one education officer would be sufficient to offer insights into the national TVET program, but, as the research progressed, four officers became involved in the study through a process of the researcher following-up recommendations of preceding participants (snowballing). The officers were drawn from the Ministry of Education (MOE), the Ministry of Higher Education, Science and Technology (MoHEST), and the Kenya Institute of Education (KIE). The four identified officers were interviewed and they offered insights into curriculum development, T&DNA and training evaluations.

After extensive consultation and guidance from the education officers, four training institutions were identified and the managers agreed to take part in the study. The training institutions comprised: one IT, one TTI, one YP and one private institution. In-depth interviews were conducted by the researcher with the manager and the auto mechanic trainers, making a total of eight trainers who took part in this study. In each institution, trainees who had previously attended work experience (in Kenya it is referred to as industrial attachment) took part in a focus group discussion. The trainers were requested to identify participants to include both genders, where possible. The institutional trainers offered information on the processes of training and the challenges involved in the transfer of knowledge. Trainees who had experience in the workplace were deemed important because, being the consumers of the training program and having applied the skills at the workplace, they offered important insights.

Multi-dimensional data were required to understand if, or to what extent, the TVET program was meeting the needs of the MVRSI industry, and how any observable skill gaps were dealt with. A case study approach was deemed the most appropriate because it provided the researcher with a holistic understanding of the training system. By investigating different angles and paying attention to many dimensions, this study was able to '. . . avoid the kind of essentialist and

context-free analysis that have historically been harmful to disempowered groups' (Hesse-Biber & Leavy, 2011, p. 256).

On completion of the data collection, the interviews and focus group discussions were transcribed, and coding of data from the focus group and interviews was done. Content analysis and simple frequency measurements are presented in Chapter 6. To analyse the data, they were first grouped into the three thematic areas of a T&D model: T&DNA, activities and evaluation. Then, these thematic areas were further subdivided into smaller components, and requisite data inserted to the most appropriate area. A fellow PhD student and the researcher separately examined a sample of the data and placed them into the appropriate category, to test the inter-rater reliability of the coding process. The two sets of coded data were then compared and found to closely correlate. It is crucial to seek the opinion of an independent judge to place the operational definitions into their correct categories and then compare with those of the researcher to gauge the consistency of the coding process (Devlin, 2006).

The data collection and analysis processes outlined above provided information that was used to answer the research questions. Through the use of multiple data sources, the researcher was able to collect diverse and voluminous data that were effectively handled using content analysis. The coded data were analysed using the T&D framework that was developed in this study, which helped to advance theoretical and practical contributions to the body of knowledge.

1.7   Contributions

This study proposes that one of the reasons for the existence of a mismatch between the type and quality of skills the TVET institutions are producing and the skill needs of the industry is the poor methods of carrying out a training gaps analysis. Critics argue that absent or inadequate T&DNA can result in incorrect and ineffectual training programs, which could either have a deleterious impact or no impact at all (Brown, 2002; Stone, 2010; Wagonhurst, 2002). The multiple stakeholders who took part in this study presented wide-ranging views on the contribution of TVET to developing required job-related skills and competencies in the MVRSI in Kenya. Their opinions presented diverse perspectives that provide unique and comprehensive insights into how different segments of society measure the same training. This is one of the contributions of this research.

In this thesis an organisational T&D model was used, expanded and customised to the Kenyan situation and is presented in Chapter 4. The framework was then used to assess and analyse the

collected from multiple stakeholders in order to answer the research questions for this study. The components of the framework were appropriate for analysing the different phases of a T&D program for the MVRSI in Kenya. This is another contribution to the theoretical framework of a TVET program, which can be replicated and used for comparable studies in other industries in developing countries experiencing conditions similar to Kenya. For example, findings in this research offer an understanding of the challenges faced by a developing country attempting to meet competitive labour demands. The framework forms a more comprehensive structure for developing an industry T&D program to furnish TVET graduates with relevant skills needed by industry.

1.8   Thesis structure

In this first chapter, the rationale for this thesis is defined by presenting an overview of the research, which includes the background to the research, the role of TVET, the research objectives, research questions, justification of the research and statement of the problem.

In Chapter 2, a situational analysis of Kenya is discussed, beginning with a geographical and demographical description, and followed by an in-depth analysis of Kenya's TVET sector. Drawing upon government publications and journal articles, training in Kenya is compared with other countries in Africa and elsewhere in the world to assess whether relevant lessons have been learnt.

In Chapter 3, the three phases of an organisational model of T&D are discussed and their contributions analysed. The three phases are: training and development needs analysis, training activity and training evaluation.

In Chapter 4, a T&D framework for this study is developed through an expansion of the three phases of an organisational T&D model. The expansion is done by incorporating the phases of an organisational T&D (examined in Chapter 3) with the study of the Kenyan TVET program (discussed in Chapter 2).

In Chapter 5, the methodology employed in this research is discussed. The chapter is divided into three parts: first, is the research problem, whereby the ontological, epistemological and methodological approaches and data analysis techniques are examined; second, the procedures for answering each of the four research questions are outlined; and third, there is a discussion of the measures of consistency (validity and reliability) and ethical issues of the study.

In Chapter 6, data from the interviews, focus group discussions and observations are presented. The first section contains the profiles of the respondents, followed by the businesses' particulars and the training institutions' details. The research findings are presented in sections that relate to the three phases of an organisational T&D model: the T&DNA that comprises of TNA and training objectives; training activities; and, training evaluation.

In Chapter 7 is a discussion of the findings of this research based on the three phases developed in Chapter 4. In the first section is a discussion of TNA, while training objectives are discussed in the second section. The TNA discussion is based on four key features that T&D should address: training programs contents and priorities, required resources, timing of implementation and the expected rate of progress and returns; whereas training objectives are discussed under five specific areas, to be addressed by the syllabi: delivery of quality TVET, improvement of consistency and management by training providers, improving graduates' employability, promotion of life-long learning, and enhancement of the status and attraction of vocational education. In the third section is a discussion of the second phase of the proposed T&D model: the training activities, which are discussed based on five factors affecting this phase: TVET training institutions, curriculum implementation, trainers, trainees and sociopolitical factors. In the last section, interpretations and discussions are grouped following the four levels of the Kirkpatrick evaluation model: reactions, learning, behaviour and results.

The discussion in Chapter 8 revolves around the research questions and the theoretical and practical implications of the study. This study's conclusions and recommendations, limitations and areas for future research are presented in this chapter too. The chapter concludes with a presentation of a brief overview of the process of doing this research.

A graphical representation of the thesis structure is shown in Figure 1.2.
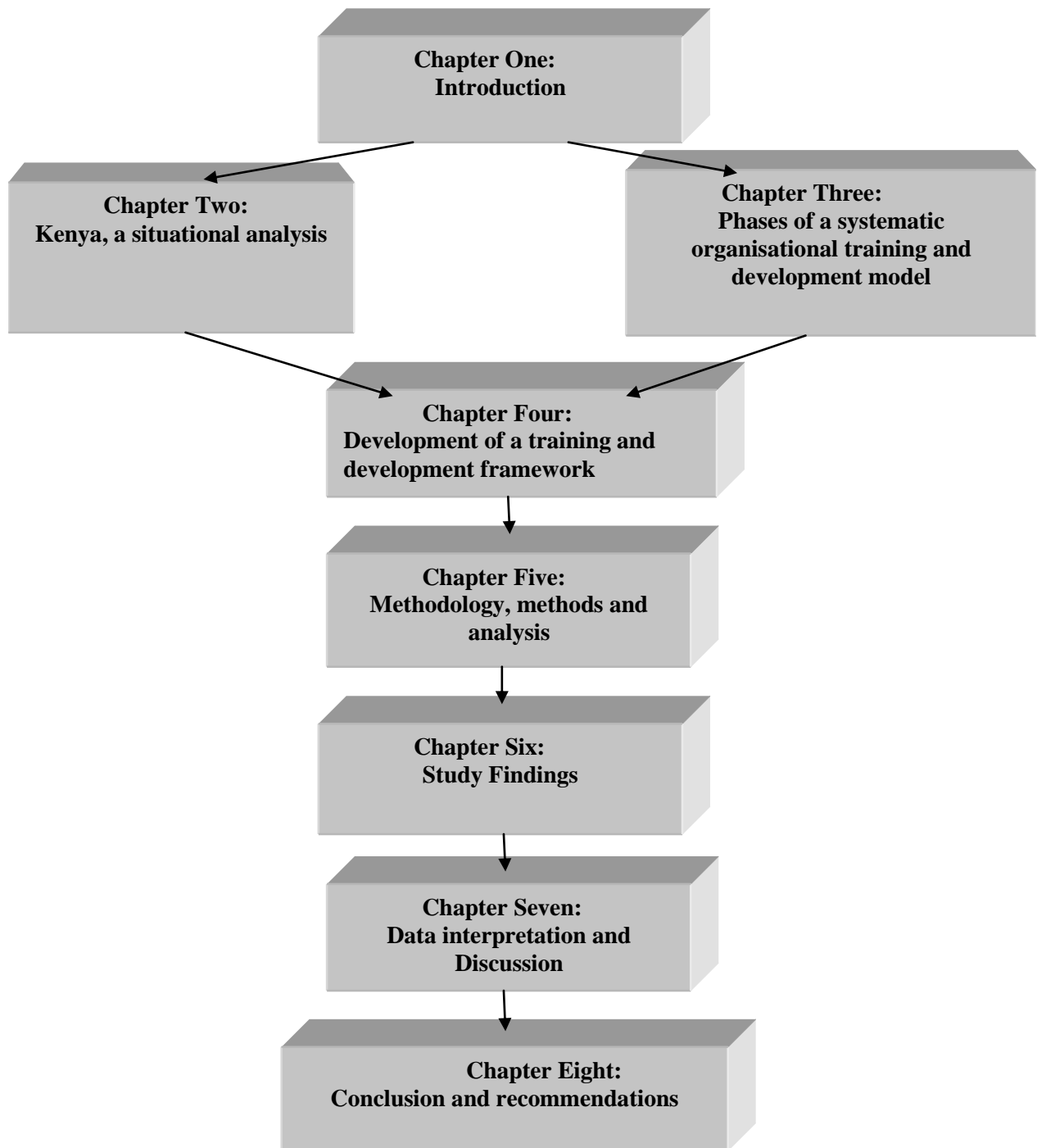
Figure 1.2   Graphical representation of the thesis

1.9   Final note

This PhD was undertaken in Australia during a period when Kenya experienced great changes. On 27 August 2010, a new constitutional dispensation was promulgated, and since that time

several bills have been passed in parliament: for example, on 2[nd]September 2012, a newspaper article referred to the adoption of the following seven bills: the Education Bill, the Kenya Institute of Curriculum Development Bill, the Kenya National Examinations Council Bill, the Universities Bill, the Technical and Vocational Education and Training Bill, the Kenya Qualification Framework Bill and the Kenya Science, Technology and Innovation Policy Bill (Muindi, 2012).

The adoption of various statutes is predicted to bring about significant changes that will impact on TVET, especially in areas of its coordination and examination processes. The reader should be advised that data for this study were gathered between December 2010 and January 2011, and are presented based on the situation at that particular time. However, the findings for this study relate to an improved T&D model, which is expected to withstand such changes.

1.10   Summary

The purpose of this chapter was to present a rationale for study and provide an overview and organisation of the thesis. By developing a more responsive framework for T&D, this study aims to examine key stakeholders' perceptions of the contribution of TVET to producing job-related skills that can be employed in MSE in the Kenyan MVRSI industry. Stakeholders' views informed the framework; stakeholders consisted of MSE employees and employers, TVET institution trainers and trainees, and education officers.

In the next chapter a situational analysis of Kenya, detailing the social, demographic, political and economic factors that impact on TVET, are presented. In an effort to establish any existing gaps in the program, the aim of Chapter 2 is to construe the interrelationship of these factors and their role in the training process in an effort to establish any gaps that exist.

CHAPTER 2   KENYA, A SITUATIONAL ANALYSIS

2.1   Introduction

In this chapter, a situational analysis of Kenya is undertaken, beginning with its geographic and demographic characteristics, followed by an in-depth analysis of the TVET sector at the time the study took place. The Kenyan TVET system is discussed in the context of the structure of training, and the political and social systems that impact upon it. Drawing upon government publications and journal articles, training in Kenya is compared with that in other countries in Africa and elsewhere. The micro and small enterprises (MSE) sector, which is the focus of this research is also described; particularly the training and development (T&D) program issues.

2.2   Geographical and demographic description of Kenya.

Kenya is an East African country with a total land area of 569,367 square kilometres, bordering the Indian Ocean and Tanzania in the south, Somalia in the east, Sudan and Ethiopia in the north, and Uganda in the west. According to the 2009 national population census, the country has about 41 million people, but this is growing rapidly at about 2.5per cent per annum. The population growth is reflected in the age structure of the country, which shows 0–14 years at 42.1 per cent, 15–64 years at 55.1 per cent, and 65 years and over at 2.7 per cent, giving a median of 18.9 years (Kenya National Bureau of Statistics [KNBS], 2011). Kenya's gender ratio is slightly in favour of females. The majority of the population (76 per cent) professes Christianity as a religion, while 10 per cent are Muslim. English is used as the official language both for policy documentation and at all levels of education, but Kiswahili is the national language. About 85 per cent of the population (over 15 years of age) is literate, with a significantly higher rate for males. Figure 2.1 demonstrates a geographical map of Kenya showing the major cities. Overleaf is a map of Africa showing the position that Kenya occupies.

Figure 2.1   Map of Kenya

Source: http://www.mapsofworld.com/kenya/kenya-location-map.html

There are three major Kenyan cities (Nairobi, Mombasa and Kisumu), but only 22 per cent of the population is urban. Economically, in 2007, the GDP growth averaged five per cent, per capita income was USD 1,600, labour force participation was 17.9 per cent, unemployment rate 40 per cent, while 50 per cent of the population was shown to be living below the poverty line (Congress, 2007). The government spends a relatively high proportion of its GDP (7 per cent) on all levels of the education system, being the sixteenth highest in the world (Central Investigation Agency, 2012).

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2.3   Structure of TVET training in Kenya

To develop the nation's social and economic advancement, vocational T&D is expected to play two critical functions: firstly, to offer training prospects and occupation growth for school graduates and, secondly, to provide experienced labour for all levels of the country's economy (Government of Kenya [GoK], 2003a, 2007, 2008a). Due to scarce opportunities in paid employment, the skills developed are expected to lead to self-sufficiency and to advance Kenya's industrialisation processes (UNDP, 2010). This can be achieved through identifying national TVET policies, developing appropriate programmes, providing sufficient funds, and increasing positive social outlooks for training and improved management—all of which are crucial for successful implementation of the TVET strategy (Nyerere, 2009). Skills development is especially important in ending Africa's economic marginalisation by developing high and middle level skills, necessary to support global competitiveness as well as addressing other areas like poverty and disease (Tikly, 2003).

In Kenya, TVET is offered at five levels, which are exemplified in Figure 2.2 below. Each of these levels has an exit point, where participants can choose to enter the job market or continue to the higher level (GoK, 2005). At the lowest level of training—the youth polytechnic (YP)—graduates acquire an artisan certificate which gives them the general knowledge to practise their skills. The second level involves training at technical training institutes (TTIs) and institutes of technology (ITs) to acquire a craft certificate, which involves more theoretical knowledge than the artisan certificate. The third level trains technicians at the national polytechnics (NPs) and a few specific TTIs and ITs, while the fourth level trains technologists at the NPs and universities, who upon graduation may either exit the system or continue to the fifth level for advanced technologists, which is equivalent to a masters level in the Kenyan regular education system.
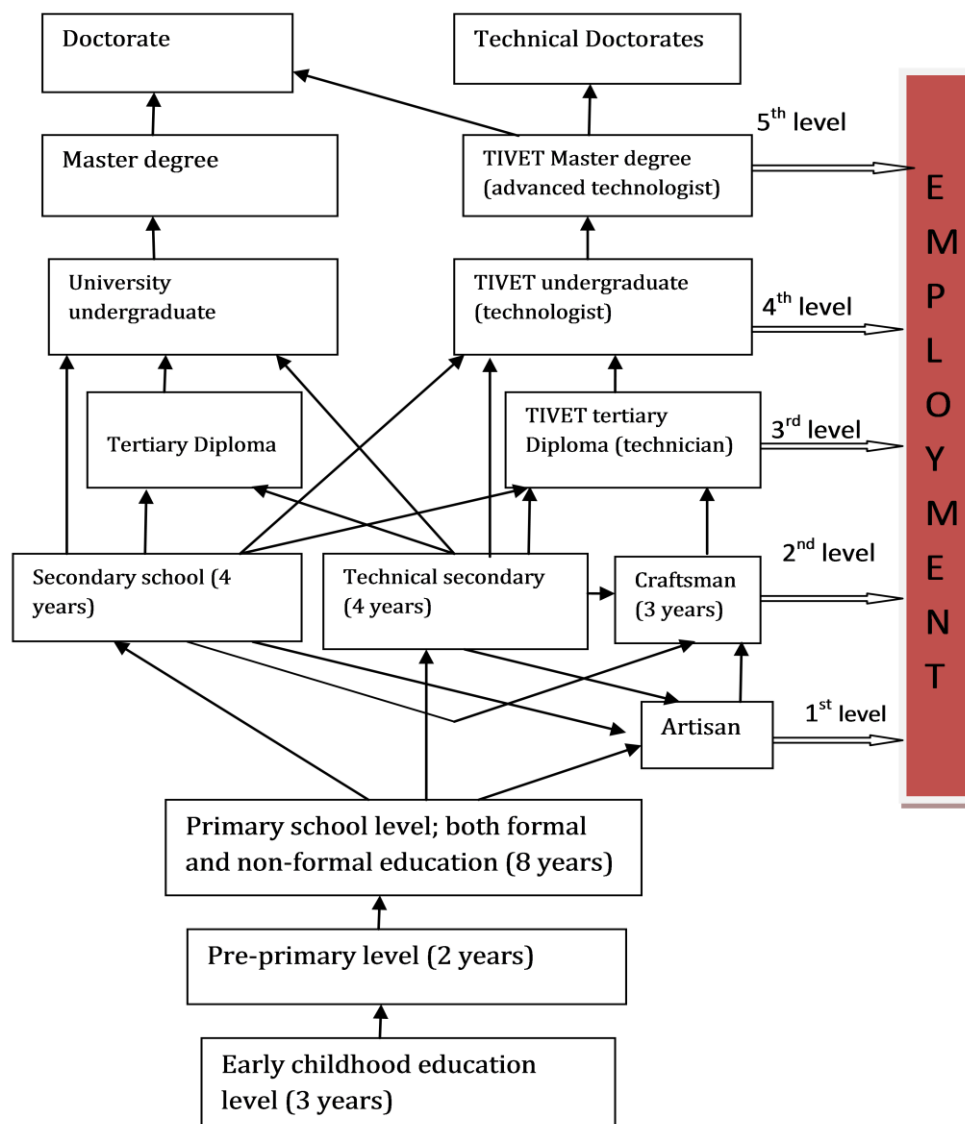
Figure 2.2   TVET in Kenya

Adapted from (GoK, 2005)

TVET levels can be compared internationally by using the UNESCO's set of international educational classifications – the ISCED 1997; designed to harmonise and integrate the multiple types of VET programs in different countries, and to collect and report internationally comparable education statistics. ISCED 97 levels are generally based on the complexity of VET programs, and are categorised through the intended destination and program orientation. However, ISCED

faces challenges in classifications due to a lack of international standards educational complexity levels; and often prefer to use other program characteristics such as:

1) Starting age;
2) duration of programs;
3) entrance requirements;
4) destination of graduates;
5) qualifications attained.

Table 2.1 below compares ISCED levels to that of VET attainment levels.

Table 2.1   Comparison between ISCED and TVET levels.

ISCED level	Vocational qualification	TIVET equivalent
0	Pre-primary	-
1	Primary education	-
2	Lower secondary	1
3	Upper secondary	2
4	post-secondary non-tertiary	3
5	First stage tertiary	4
6	Advanced research	5

2.4   National TVET objectives

The government identified the main objective of TVET as "the provision, promotion and co-ordination of life-long education, training and research for Kenya's sustainable development" (GoK, 2003b, p.4). This objective was further broken down to the specific objectives (p. 9) outlined below:

- to provide increased training opportunities for school leavers that enable them to be self-supporting
- to develop practical skills and attitudes which lead to income-generating activities in urban or rural areas through salaried or self-employment
- to provide technical knowledge and vocational skills necessary for the growth of agriculture, industry and commerce
- to produce people who can apply scientific knowledge to the solution of environmental problems

The TVET objectives are formulated to address different economic sectors in the quest for the country's industrial growth. Despite such elaborate and sound policies, implementation has been inadequate and often uncoordinated, leading to the objectives not being met (GoK, 2007).

2.5   Curriculum development

The curriculum offered by the public TVET institutions in Kenya is designed and developed by the Kenya Institute of Education (KIE). In addition, KIE coordinates and facilitates various subcommittees by serving as a secretariat for curriculum development and providing logistical support (Kenya Institute of Education [KIE], 2006). Several private TVET establishments offer externally based curricula (mostly British and American), particularly in courses where an internally designed curriculum is missing or is inadequate (Nyerere, 2009). In addition, KIE notes that while such a curriculum is usually cost-effective it is sometimes found to be of a lower quality and often fails to meet Kenya-specific training needs. The lack of an all-inclusive national training structure to monitor the many TVET institutions leads to institutions following different syllabi that are influenced by the origin, industry demands and reputation of the examining body (Ngerechi, 2003).

The KIE (2006) strategic plan explains that curriculum development involves ten stages:

     i.   Policy decision/formal request
    ii.   Needs assessment
   iii.   Conceptualisation and policy formulation
   iv.   Formulation of curriculum designs
    v.   Development of syllabuses
   vi.   Development and selection of teaching and learning materials
  vii.   Teacher preparation
 viii.   Piloting
   ix.   Implementation
    x.   Monitoring and evaluation.

Curriculum designed by KIE promotes the attainment of both practical or manipulative and theoretical skills, with a proportion of the latter being directly related to the training level, as indicated in Table 2.1 below:

Table 2.2   TVET curricula time allocation
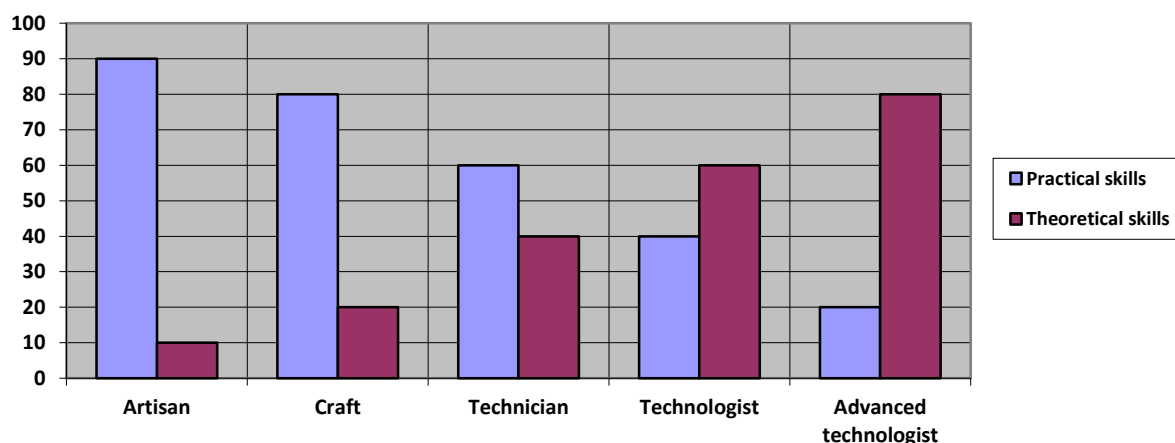
Source: Kenya Institute of Education (2006)

While the artisans and craft certificate holders are expected to learn more practical than theoretical skills, trainees in the higher levels of TVET (i.e. technologists and advanced technologists), are equipped with more theoretical than practical skills. The reason for this is that while trainees in the lower levels of TVET are expected to do the manual work at the workplace, trainees with higher levels are expected to do the diagnostic and design functions. Thus, most MSE will employ the artisans and craft certificate holders, while the big companies and training institutions will absorb the technologists and advanced technologists; the technicians will usually undertake middle-level supervision.

2.6   Monitoring and evaluation

According to the MoHEST training strategy, monitoring and evaluation (M&E) involves routine data gathering and examination of the accomplishment of the programme's implementation to inform decision-making at all levels and guide the corrective measures needed that is achieved through the following (GoK, 2008c, p. 55)

- developing monitoring and evaluation indicators
- carrying out continuous data collection and analysis
- carrying out random inspections and making objective observations
- conducting specially designed surveys and rapid assessments to assess progress
- carrying out participatory M&E (stakeholders forums)
- establishing work improvement teams in the respective departments
- facilitating independent assessment and reviews of the programmes

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More factors, such as relevance, efficiency, effectiveness, sustainability and impact measures, could be used to measure evaluation of the training programmes. This could possibly be done through designing a logical framework that shows the activities, predictable outputs, M&E tasks, verification measures, the action centres, resource requirements and the time-frame.

Evaluation of TVET is undertaken by the Kenya National Examinations Council (KNEC), which is authorised to assess national examinations for primary schools, secondary schools, and the business and technical education sector. Trade tests, professional and skills syllabi (offered in the industrial training centres (ITCs)) are evaluated by the Directorate of Industrial Training (DIT) (Ngerechi, 2003). Several TVET institutions administer their own examinations, while foreign curricula (e.g. city and guilds) are evaluated by their corresponding examining bodies from their original country. The absence of a national body to specifically examine TVET curricula has led to questionable certificates flooding the market due to a lack of standardisation measures. The existing structure, which has countless different certificates, has been unsuccessful in achieving recognition for vocational skills due to lack of coherence and transparency in the examination dispensation (Dieckhoff, 2008).

2.7   Management of TVET in Kenya

During the time of this study TVET was managed by 12 ministries, 52 local authorities and six acts of parliament, leading to unnecessary competition and duplication of roles and responsibilities (Nyerere, 2009). Government reports, among them the 1970–1971 *Commission of Inquiry into Vocational Training* (GoK, 1970), *Sessional Paper No. 6: Presidential Working Party on Education and Training* (GoK, 1988) and *Sessional Paper No.1: A Policy Framework for Education, Training and Research* (GoK, 2005), all emphasised the importance of a national legalised TVET umbrella body; but this had not been realised.

TVET, like many other programs in Kenya, is affected by the social, economic and political systems of the country. *The Presidential Circular No. 1: The Organisation of the Government* (GoK, 2003d) placed the management of TVET under twelve government ministries, among them education, water, local government, tourism, human resources and health (Nyerere, 2009). Figure 2.3 below illustrates the legislative and legal instruments governing TVET.

The Local
Government
Act (Ch. 265)

The Higher
Education
Loans and
Board Act (Ch.
213)

The Kenya
National
Examinations
Council Act
(Ch. 247)

Legal
framework
governing
TIVET

The
Education Act
(Ch. 211)

The
Universities
Act (Ch.
210B)

The Teachers
Service
Commission
Act (Ch. 212)
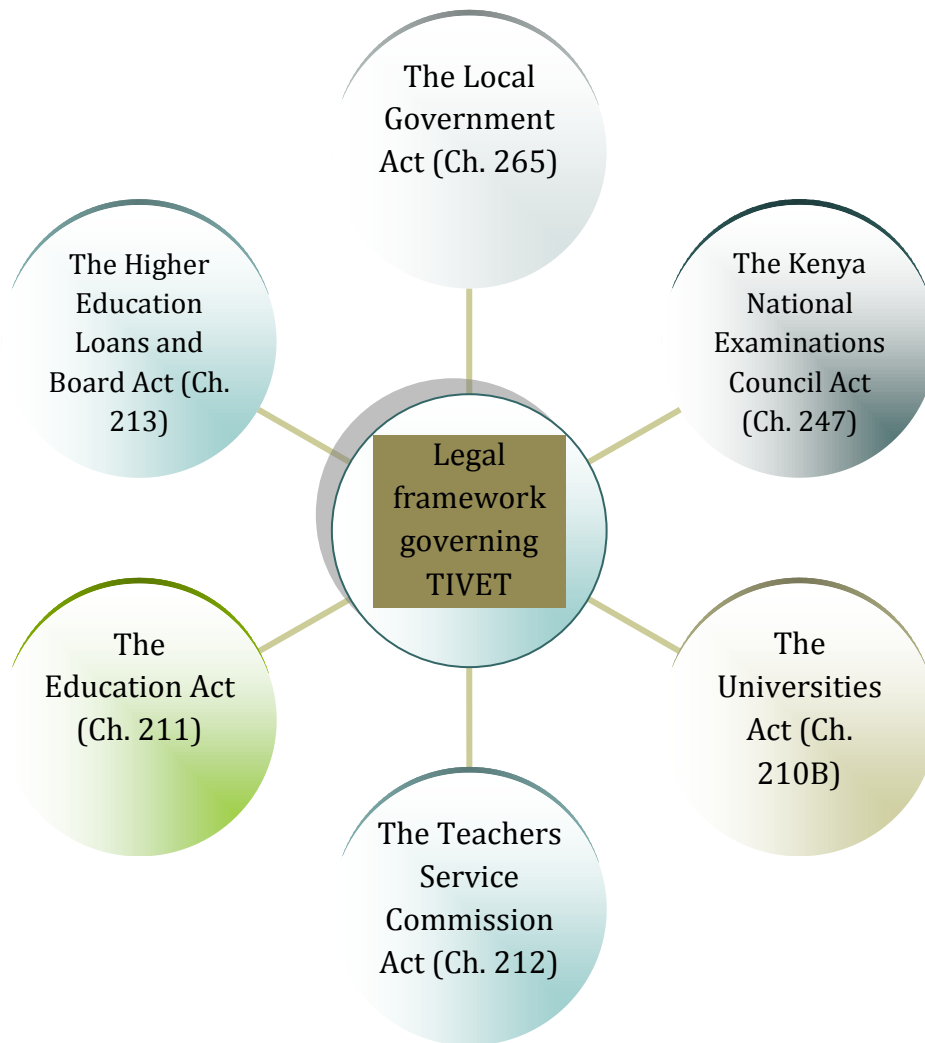
Figure 2.3   Legal framework governing TVET

Adapted from: Nyerere, (2009)

The government manages a large percentage of TVET institutions, but government *Sessional Paper No. 6: Presidential Working Party on Education and Training* (GoK, 1988), encouraged private investors to enter into vocational education and training, a strategy that led to the mushrooming of private TVET establishments countrywide, bringing in more conflict and irregularities because requisite structures were not put in place (Ngerechi, 2003). Policy decisions have a large influence on providers' training decisions. But as Steer et al. (2007) argues there is a broad range of factors that influence the training decisions: ". . . the broader policy framework,

staff professionalism and values, the needs and characteristics of the learners, the ethos and policies of the learning institution, the curriculum and pedagogy, management cultures, employer involvement and the physical learning environment".

In Chapter 1, Section 1.9, this study has cautioned that Kenya is undergoing phenomenal constitutional changes that will have an effect on TVET programs. The situation under which TVET operates may change, but the effects will take longer to be felt. Thus, the findings of this research are still pertinent as the industry evolves.

2.8   TVET enrolment figures

The TVET enrolment figures that were available during data collection for this study are tabulated in Table 2.2. The figures show an increase in enrolment over the years 2003–2007 with the ratio of female to male having a definite upwards trend at different levels of training. For example, in the year 2007, at the highest level of TVET—the national polytechnics and the Technical universities of Kenya and Mombasa that train technologists and advanced technologists—62 per cent of the learners were male and 38 per cent female. At the middle level institutions this ratio changed to 55 per cent male and 45 per cent female, while at the lowest level, the YPs, there was gender parity.

Women have a lower participation rate than men at the higher levels of TVET because, traditionally in Kenya, TVET has been reserved for males; according to cultural beliefs among Kenyan communities, women are discouraged from enrolling in technical courses (Ngerechi, 2003). This has resulted in serious omissions in the structure of the T&D programs. In 2004, female enrolment in science, mechanical and technological courses across all levels was extremely low—1.4 per cent in mechanical engineering, 4.4 per cent in electrical and electronic engineering and five per cent in building and civil engineering (GoK, 2007).

Table 2.3   Enrolment in TVET institutions in 2003–2007

Year	2003		2004		2005		2006		2007	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
National polytechnics										
Kenya	7738	4863	6386	3499	6410	3549	6405	3329	6521	3401
Mombasa	2647	1390	2778	2436	3111	2631	3265	2710	3285	3012
Kisumu	937	421	1124	476	1349	619	1410	710	1489	824
Eldoret	1523	684	1675	752	1759	820	1834	832	1894	858
Total	12845	7358	11963	7163	12629	7619	12914	7581	13189	8095
Other TIVET institutions										
TTIs	7436	5648	9653	8350	9846	8684	9925	8731	10818	9517
ITs	4799	3927	4715	3755	4904	3943	4961	4104	5407	4473
subtotal	12235	9575	14368	12105	14750	12627	14886	12835	16226	13390
YPs	7171	13255	8605	13918	8691	14196	8741	14210	9528	15489
Total	32251	30188	34935	33186	36070	34442	36541	34626	38942	37574
Grand total	62439		68122		70512		71167		76516	

Source: GoK, (2005).

Internationally, VET enrolment figures show a similar trend, although the ratios differ from those in Kenya because of the particular country's economic and social status. For instance, in Zimbabwe (Africa) emphasis is laid on training for the traditional artisan courses that are mostly technical in nature (and which favour men), translating to courses designed for technically-based careers being largely male-dominated (Bennell, 2000). In Kenya, females lack role models in technical and engineering courses, and in certain courses trainers show open bias against women, meanwhile, men who take on traditional female courses, such as tailoring, cookery and secretarial studies, are likewise ridiculed by both the trainers and trainees (UNDP, 2010).

At a national policy level, the aim of workforce training should be geared towards affecting change in the labour market and addressing social inequalities. This makes VET an appropriate vehicle for this role since "policies that succeed in changing the gender and racial imbalances that exist in vocational training may carry over their effects as those trainees enter the workforce" (Rodgers & Boyer, 2006, p. 309). Addressing gender imbalances in TVET involves formulating

concrete policies that would make the training program attractive and accessible to women and other disadvantaged groups interested in participating in the program.

2.9   Funding

VET is an expensive venture that calls for innovative resource deployment mechanisms, which are critical to the achievement of policy objectives (Bennell, 2000; Ziderman, 2003). Further, technological developments necessitate skilful personnel and expensive equipment and, consequently, outcomes often may not be realised for a long time (UNDP, 2010). According to Bennell (2000), the high investments and running costs of providing VET in many African countries is borne by the trainees, who are required to pay for the program. This leads to expensive courses which most high school leavers cannot afford, deterring many potential entrepreneurs. Coupled with this, Kenya lacks a structure for loan facilities for students joining technical institutions, unlike their counterparts at the universities who benefit from funding through the Higher Education Loans Board (Nyerere, 2009). The Kenyan government therefore needs to put measures in place to support prospective trainees and enable TVET to meet its strategic objectives.

Labour market dynamics have expanded the VET objectives from being simply economic to embracing the social aspect, including that of fighting poverty and generating youth employment (Johanson & Adams, 2004). While there is a need for most African governments to expand VET to increase productive labour, the lack of physical facilities, materials and equipment needed means that the envisaged productivity will not be achieved (UNESCO-UNEVOC, 2008). This situation is not helped by the fact that there is increasing pressure, both internal and external, for developing countries to meet 'Education for All' (EFA) goals by the year 2015. Thus, most resources are mobilised to attain universal primary education and expand the universities, yet "the rhetoric over skills and the value of TVET continues" (UNESCO-UNEVOC, 2008, p. 35).

2.10   Stakeholders

Designing a training system that facilitates superior vocational skills would require community partnerships, participation and recognition of training benefits (Wallenborn, 2010). This demands a high degree of harmonisation among the training providers and employers on the one hand, and between employer organisations and unions on the other, to accurately define training aims and objectives and to appropriately allocate resources. According to Kitainge (2003a) TVET is largely

trainer-centred with low stakeholder participation, and this could be the reason behind the variance between the skills taught and the requirements of the industry.

Figure 2.4 demonstrates the TVET stakeholders who undertake curriculum development and implementation, industrial training, internships, attachments, funding and donation of equipment, and exchange of teachers and lecturers within different institutions (Nyerere, 2009).
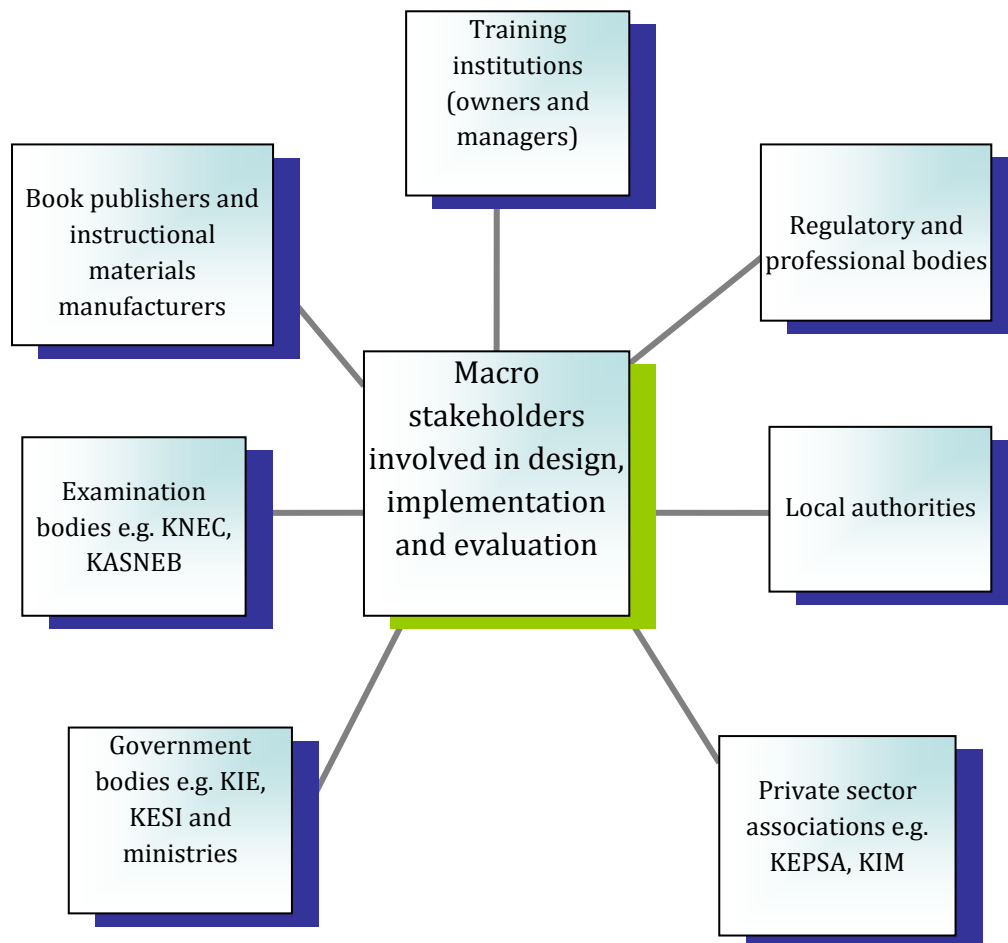
Figure 2.4 Key stakeholders in TVET

The stakeholders mentioned above play specific roles in the delivery of the TVET program. The government (through KIE) designs the curricula book publishers prepare the instructional materials, while training institutions implement the curriculum. The curriculum is tested and examined by examining bodies both within and outside the country. Other government bodies,

such as Teachers Service Commission (TSC) and Kenya Educational Staff Institute KESI, provide and offer in-service training courses to the teachers. The business industry, which is represented by bodies such as Kenya Private Sector Alliance (KEPSA) and Kenya Institute of Management (KIM), is the consumer of the training, while trade unions negotiate for terms of employment for their members.

2.11   Employment of graduates

According to UNDP (2010), TVET graduates in Kenya are crucial to the modernisation of Kenya's employment profile. The majority of TVET graduates are absorbed by the MSE sector, either as entrepreneurs or employees. In 2008, the Kenya National Bureau of Statistics (KNBS) estimated the total labour force to be 14 million—out of which only 1.9 million (13.75 per cent) were documented to be formally employed and eight million (57.14 per cent) were estimated to be informally employed, bringing the total to 70 per cent (GoK, 2008b). The number of unemployed youth was estimated to be about two million, with a rise to 14 million projected for 2015.

To deal with the ever-increasing unemployment rates, the government, through Sessional Paper No. 6 of 1988 named *Education and Manpower Training for the Next Decade and Beyond* (GoK, 1988) recommended the introduction of entrepreneurship education at all levels of TVET to promote 'enterprise culture' nationally among the youth (GoK, 1999). In this sessional paper the hope was expressed that more graduates would opt for self-employment than live as job seekers.

Kenyan MSE encompass micro (0–5 employees) and small (6–20 employees) enterprises, which in 2003 employed an estimated 3.2 million people and contributed about 18 per cent of GDP (African Development bank [ADB] & Organisation for Economic Co-operation and Development [OECD], 2005). The most recent comprehensive National MSE Baseline Survey conducted in 1999 concluded that the MSE sector comprised an estimated 1.3 million enterprises and employed 65 per cent of the nation's non-agricultural employees, while the formal sector employed only 1.6 million people (5.5 per cent)(GoK, 1999). Further, the survey found that trade was the dominant economic activity representing 60 per cent of all the MSE. Other activities were found to be: manufacturing 13 per cent, construction 2 per cent, and services almost 15 per cent. This breakdown is demonstrated in Figure 2.5. In addition, findings of the survey indicated that more than 60 per cent of all repair and service enterprises were located in the towns and cities.
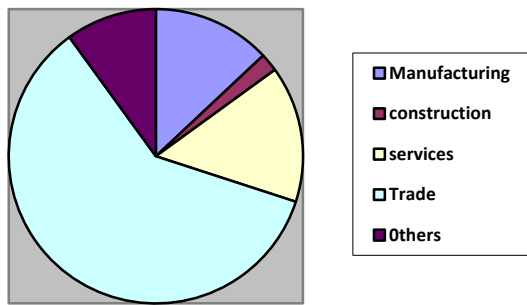
Figure 2.5   Composition of MSE in Kenya

Source: GoK (1999)

Most MSE in Kenya are owned by women, are operated from the home, and are confined to a limited number of trades and services, which include tailoring and dressmaking, and hospitality. On the contrary, men are concentrated in repair services, metal-based manufacturing, carpentry and joinery (GoK, 1999). About 60 per cent of MSE are rural based, located mostly in regional centres and small towns, and have an average size of 1.8 workers with only two per cent employing more than ten workers. Despite its significance, the MSE sector is unregulated, with most MSE being unregistered and lacking a permanent location (Mitullah, 2005). Accordingly, potential clients perceive them as incapable of offering quality service and unable to fulfil more than one critical project at a time (Bowen et al., 2009). This leads customers to opt for larger companies due to their influence in the industry and brand recognition.

The Kenyan industry displays poor linkages between specialised MSE, as well as between the larger organisations and the TVET institutions. Further, most MSE lack the capacity to develop technological proficiencies to obtain and use knowledge from foreign organisations and training bodies (GoK, 2008b). MSE in the MVRSI in Kenya, display similar characteristics to other sectors: lack of registration and regulations, poor collaboration with other sectors and minimal equipment and facilities (Barasa & Kaabwe, 2001; Wachira et al., 2009). In addition, the sector is male-dominated, most businesses operate in the open and most employees have been trained on the job (Wachira et al., 2009). Although statistical data of the MVRSI industry was not available at the time of this study, the establishment of numerous garages in towns along major roads is an indication of the amount of business available.

Because the MSE sector employs more people than other sectors, it is important to examine how TVET graduates are viewed by employers. In a sector that is unregulated, it becomes difficult to

access statistical data on employees, such as their numbers, turnover or salaries. Additionally, in such unregulated establishments, employees may not be able to bargain for better work conditions or representation in trade unions (UNDP, 2010).

2.12   VET in other parts of the world

Literature from other countries, both in and outside Africa, allows a comparative view of VET with the aim of assessing whether there are lessons that can be learnt by the Kenyan policy makers from countries with similar conditions. For example, Palmer (2007) studied programs in China, Ethiopia, Ghana, India, Kenya, Rwanda, South Africa, Tanzania, Uganda and Vietnam and noted that in South and West Asia, and in Sub-Saharan Africa, not enough emphasis is placed on VET in their education systems. Statistical data from UNESCO in 2007 indicate that VET participation rates in Sub-Saharan Africa is around 1-5 per cent of the total enrolment in formal VET at secondary and post-secondary levels and at best cases it may be less than 10 per cent. Similarly in Western Africa, this proportion ranges from 1 per cent in most countries to 6.3 per cent in Burkina Faso. This is to be compared with 65-70 per cent in the European countries, 55 per cent in Bahrain, 75 per cent in Singapore, 55 per cent in Korea. Further, UNESCO (2006) Initial Statistical Analysis Study on VET notes that the greater a country's percentage of secondary VET participation rate, the greater a country's Gross Domestic Product (GDP) per capita. For instance, Australia, Belgium and the United Kingdom, the three countries with the highest VET participation have a very high GDP per capita, while African countries lag behind the rest of the world in technology and innovation.

Table 2.4   Percentage of vocational enrolment in selected countries

Country	Region	Gross enrolment	Vocational Programs' enrolment	% of vocational enrolment
Algeria	Africa	1,198,601	192,692	16.07
Ghana	Africa	305,466	19770	6.5
Kenya	Africa	396638	12909	3.25
China	Asia	28,471,353	11,298,031	39.7
Japan	Asia	4,244,886	1,047,720	24.7
Belgium	Europe	760, 885	533,969	70.2
France	Europe	2,583,587	1,457,240	56.4
United Kingdom	Europe	6,873,115	4,744,242	69.0
Australia	Oceania	1,221,293	769,687	63.0

In sub-Saharan countries, including Kenya, VET graduates face obstacles obtaining jobs because the skills development and training available are unable to respond to the demands of the industry (UNDP, 2010). Due to these challenges, some countries have initiated measures to correct this anomaly; for example, Tanzania has the Vocational Education Training Authority (VETA) to coordinate vocational education by linking all major stakeholders to help harmonise the training and address stakeholders' concerns (Nkirina, 2010). The African Union (AU) noted that Cameroon and Cote d'Ivoire have made attempts to strengthen vocational and professional preparation in order to facilitate smooth integration into employment and to alleviate poverty; Ghana has created linkages among VET, youth education and the development of technical and entrepreneurial skills; Lesotho and Rwanda have emphasised linking VET to businesses; while Malawi has highlighted the need to encourage self-employment through the acquisition and development of requisite skills and technology (AU, 2007). In addition, a number of countries from a regional group of sixteen countries—the Economic Community of West African States (ECOWAS) are undergoing or have undergone reforms that are designed to improve their VET systems as shown in Table 2.3 .

Table 2.3   The major reforms concern

Reform	Country
Adopting national policies and Strategies for TVET	Burkina Faso, Senegal, Mali, Ghana, Gambia, Niger, Nigeria
Have or in the process of setting up of national TVET bodies:	Gambia, Ghana, Nigeria
Have or in the process of developing NQF	Nigeria. Gambia
Adopting updated competency based curricula more aligned with the labour market needs	Nigeria, Gambia, Senegal, Burkina Faso

Despite its superior industrialisation in Africa, South Africa has only a two per cent VET participation rate in the school system. In response to the poor VET figures, the country has established an elaborate system to increase training quality (UNESCO-UNEVOC, 2008). This involves the national and local education training levels, and then the Sectoral Education and Training Authorities (UNDP, 2010). The National Skills Development Authority was also created to bind stakeholders to the National Skills Development Strategy while the Sector Accreditation and Qualification Authorities were established to cater for improved articulation between education and training.

While Mwiria (2002) views poor allocation of funding VET in secondary schools as the primary reason for poor VET participation.in Kenya and elsewhere in Africa, Atchoarena et al. (2001) argue that the low participation of VET at secondary school level is partly due to the public's attitude towards this branch, which is usually regarded as leading to low-status occupations, with the students who enrol in this kind of education are considered to be those who have failed in general education. This position results to a contradiction between the generally negative image of technical and vocational education and the strategic role it is expected to play in the race for international competitiveness, particularly in the new age of globalization. Further, data collection and classification at national levels in Africa is a challenge that constitutes inconsistencies across countries making it difficult for a comparative analysis to the precise nature of VET provision (Atchoarena & Delluc, 2001).

From the foregoing discussion it is clear that VET in Africa is not uniform and this could be explained by the colonial and social history (Tikly, 2010). Countries in Africa were colonised by different Western powers who influenced the kind of educational programs. For instance,

UNESCO-UNEVOC (2008) notes that there are glaring differences between VET systems that have adopted either Francophone or Anglophone systems; where the former as a high level of concentration of ISCED level 2 while the latter has high provision at ISCED level 4. Countries such as Algeria, Morocco, Senegal and Tunisia, which were colonised by the French, have large amounts of general education content. The implication is that programs are not aligned to the specific skills required in the country's informal labour markets. Correspondingly, Atchoarena and Delluc (2002) observed that in Francophone countries there is inherent deficiency in TVET program and delivery patterns that ignore the informal sector, in particular apprenticeships and artisans' micro-enterprises. In contrast, the authors reveal that in mainly Anglophone countries, the training is modelled along dual forms of public sector VET and artisan sector informal training, where the vocational facet tends to dominate over the general education. This inhibits progression between vocational and general courses. This leads to VET being perceived as a 'dead end' because those who train in the vocational aspect have no way of advancing their educational level. These differences are more easily observable than the finer dissimilarities within the countries' training systems (Tikly, 2010). Moreover, independence from the colonialists was attained in different years. Table 2.4 below represents these complexities through linking priorities in education program quality with the different stages of the country's development.

Table 2.5   Priorities in education quality by level of national development

State	Emphasis within the quality debate
Post-conflict; newly founded states	Subsistence, security, trust – school system, curriculum
Low income countries	Access, livelihoods (coping; lasting; flexibility) – primary schools
Middle income countries	Continuation – secondary schools, disadvantaged groups
OECD countries	Competencies, responsibility, lifelong learning,

Adapted from Tikly, (2010).

A further issue is the frequent wars and conflicts that affect a number of African countries; issues that affect policy decisions within the historical inequalities in the post-colonial perspectives. For example, Tikly (2010) notes that both South Africa, and Rwanda, which are emerging from apartheid and a devastating genocide, respectively, face difficult issues in implementing quality education. These policy dialogues that revolve around quality education are found at both national and global levels and frequently involve negotiating with civil society (Robertson et al., 2007).

Some countries have taken measures to mitigate challenges associated with skill training. To ensure adequate links between industry needs and the training offered in China, Germany, Mauritius, South Korea, UK and USA, these governments project future skills requirements by conducting continuous needs analysis; then their training institutions address the identified skills requirements (Kingombe, 2006). In China, there is a comprehensive skills inventory leading to demand-driven training that ensures all employees receive training prior to employment. The government partners with the industry to develop the training curricula, with the latter setting training standards. In South Korea, skill and qualification demands are regularly determined through sample surveys of enterprises and supported by adequate links between the local industries and VET colleges in industrial technology education zones. The government also supports students through sector specific enterprise networks.

Kingombe (2006) further reported that industry–institute linkages in India were promoted through institute managing committees (IMCs), which ensure demand-driven training programmes, and flexible multi-skill, multi-entry and multi-exit courses for which evaluation and certification are jointly done with industry. In Germany, vocational training involves a dual system where 80 per cent of instruction is done in the industries and 20 per cent in schools (Hippach-Schneider, Krause & Woll, 2007). The German training system is largely employer-driven and emphasises continuing education based on three tenets: being action-oriented, practice-oriented and application-oriented (UNDP, 2010).

In Japan, there is emphasis on the continuous development of employees throughout their careers, through what is referred to as 'Lifetime employment' (Beardwell & Holden 1994). Although new recruits leave within three years of entering their first job, there is still a considerable proportion of lifetime employment in large scale companies among the managerial and professional workforce in particular, who tend to be more permanent. Thus training and development is a part and parcel of company policy and this is spread to all employees, creating a strong bond and collective responsibility.

Despite these reforms, intentions and emphasis on VET, McGrath (2011) warns of the danger of failure if the theoretical basis for new policies and practices is not supported by adequate research strategies. More vigorous research into VET will establish its strengths, weaknesses, opportunities and threats, which is what this study aims to do. Further, there is a need to understand the kind of training offered in the MSE, which should involve reviewing forms of training (i.e. formal and informal) that complement the role of VET in the industry.

2.13   Summary

In this chapter an analysis of the situation in Kenya has been presented in terms of geography and demography. The role, the objectives, the stakeholders, and the management of TVET have been discussed and compared with other parts of the world. The objectives of vocational education in Kenya are well documented in government papers. However, curriculum development faces numerous challenges, including confusion in the management due to multiple training providers, poor regulation (both of providers and the industry), insufficient funding, and a lack of monitoring and quality assurance. In addition, only a few stakeholders are involved in the training processes, while the enrolment figures suggest that gender parity has not been achieved in the mechanical and technical fields of study.

Literature also revealed that the majority of TVET graduates are employed in the MSE sector, which lack regulatory mechanisms, and which suffer from inadequate equipment and feasible means of enforcing human resource practices. Further, a higher percentage of employees achieve their skill training informally at the worksites, through processes that lack structure.

The review presented in this chapter was important because the aim of this study is to analyse key stakeholders perceptions of TVET program and practices for MVRSI in Kenya—thus, it was necessary to understand the program's present status in order to fill in any gaps observed in the system. To develop a T&D framework for this industry, therefore, it became necessary to review literature on organisational T&D models so as to comprehend how processes of training are interrelated. This review is presented in the next chapter.

CHAPTER 3   TRAINING AND DEVELOPMENT PROCESES

3.1   Introduction

In Chapter 2, an analysis of Kenya has been presented, delineating demography and geography. The structure of technical, vocational, education and training (TVET) has been analysed in light of its management, scope and the stakeholders involved in the training program. This structure was briefly compared to VET in the African continent and other parts of the world.

In this chapter is a discussion of a generic organisational training and development (T&D) model adopted from authors such as Stone (2010), Armstrong (2009), Cascio (2010) and Beardwell and Claydon (2009). The literature reviewed indicates that there are mainly three phases of an organisational T&D model, namely: training and development needs assessment (T&DNA), training activities, and training evaluation. The three phases are further subdivided into subsidiary areas. The T&DNA phase consists of two areas: training needs analysis (TNA) models (which takes in TNA processes and individual, task and organisational variables) and training objectives formulation. The training activities phase is sub-divided into two areas: designing training programs and conducting the training program implementation. Training evaluation is discussed under the three areas of developing evaluation criteria, training evaluation models and transfer performance.

The aim of this chapter is to critique and discuss the three phases of an organisational T&D model in order to form the basis for developing a T&D framework in Chapter 4 for the motor vehicle repair and service industry (MVRSI) in Kenya. Thus, while this chapter will confine itself to a T&D model at the micro level, the discussion does focus on issues to be addressed in the context of a macro model. The next chapter proposes an expansion of the organisational model to encompass other study areas that are necessary at the macro level—that is, the MVRSI in Kenya.

3.2   Organisational training and development models

In order to develop a T&D model for TVET in Kenya it is imperative to review the structure of an organisational T&D model and then relate it to a national or macro level. A systematic T&D helps an organisation to optimise its utilisation of human resources by allowing workers to achieve not only their organisational goals, but also their personal goals (Piyali, Jagdamba Prasad, Rachita, Udita & Rashmi, 2011). The ultimate aim of training is to enable trainees acquire knowledge, skills and attitudes, and to relate these to their daily activities. To achieve effectiveness and improve employee performance, a training program needs to include a comprehensive T&DNA,

utilise appropriate training processes, and anticipate any external hindrances that may limit the transferability of skills from the institutions to the workplace (Wagonhurst, 2002). Accordingly, Aldag and Stearns (1987) identified four main goals for training programs:

- Programs must be based on organisational and individual needs.

- The training objectives should identify the problems to be solved.

- Training should be grounded on comprehensive theories of learning.

- Evaluation procedures must be done to establish whether a training program is working.

Other authors, for example Armstrong (2009) and Stone (2010), have generated similar goals of an organisational T&D model. In the following section, the organisational training model will be shown to comprise the three phases: T&DNA (comprising TNA and training objectives), the training activity processes and training evaluation. The model is presented in Figure 3.1.
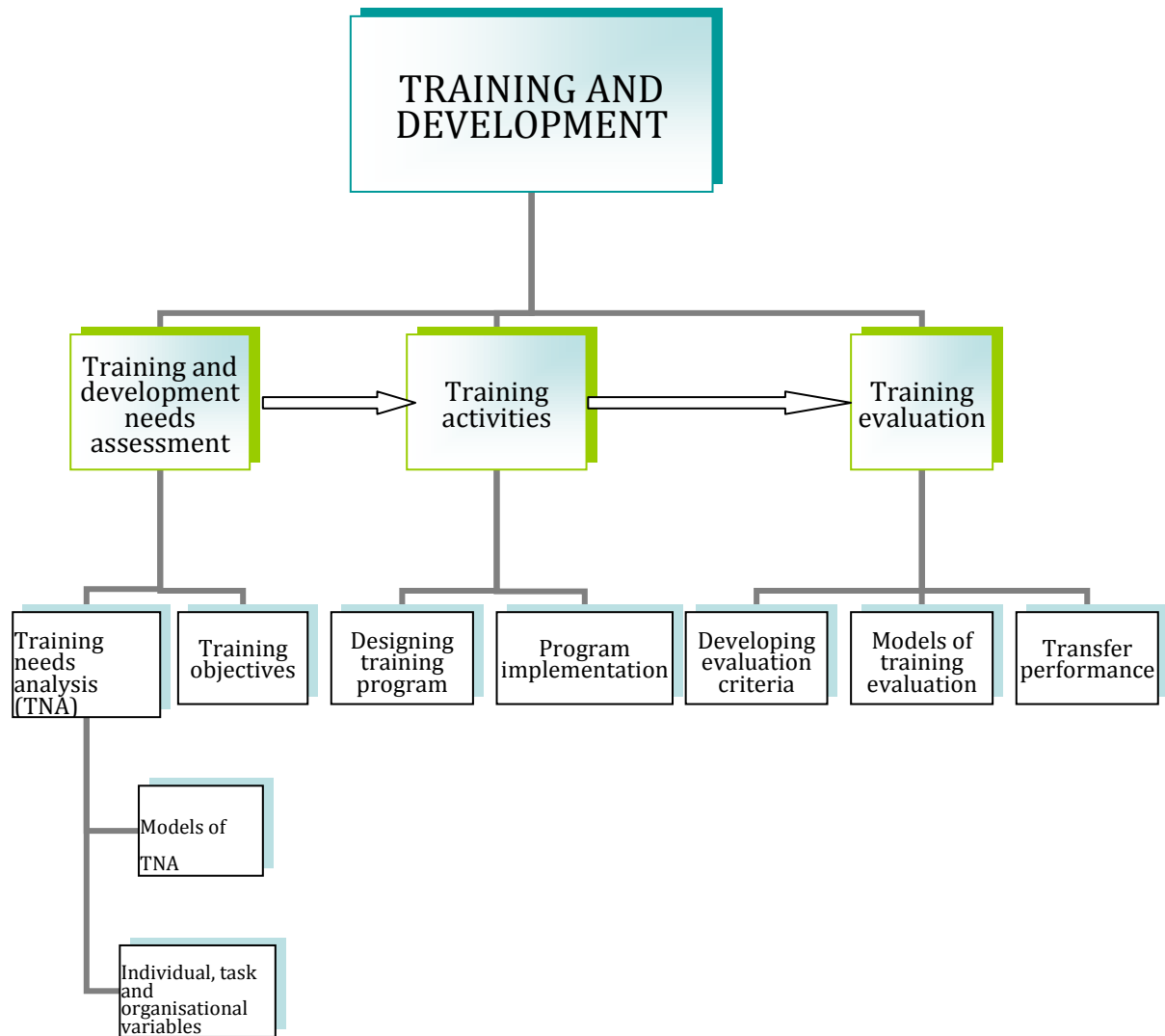
Figure 3.1: Organisational T&D model

Adapted from: Stone (2010), Armstrong (2009), Beardwell and Claydon (2009) and Cascio (2010).

3.3 Training and development needs assessment phase

The T&DNA phase is crucial because it sets the training in motion and because the determination of training needs, and the translation of those needs into training objectives, provide direction and purpose for the training process (Stone, 2010).

3.3.1   Training needs analysis

An effective TNA, which Brown (2002, p. 569) defined as a "an ongoing process of gathering data to determine what training needs exist so that training can be developed to help the organisation accomplish its objectives", is necessary to understand any training. A TNA is needed to:

- identify the specific areas of concern in an organisation that can be addressed by a training program

- negotiate with management for support

- develop evaluation mechanisms or tests

- draw a training budget and specify the expected benefits of the training.

The results of the analysis offer an essential understanding of VET undertakings to enable providers to develop suitable programs to enrich the effectiveness and efficiency of the training course while guiding the development of future interventions (Ridha, 1998). TNA relies not only on expert judgment (e.g. training analysts and subject experts) but also on empirical evidence provided by evaluation to express likely linkages (Taylor, Driscoll & Binning, 1998). TNA can be carried out using different methods, as expounded in the following section.

3.3.1.1 TNA data gathering techniques

Training is all about improving performance and supporting employees; identifying the competencies needed to skilfully perform a task is vital in the identification, firstly, of training needs and, thereafter, of techniques, methodology and evaluation criteria (Ridha, 1998; Wagonhurst, 2002). There exists a wide range of useful approaches for carrying out TNA. Since subjective approaches (e.g. interviews, surveys, and focus group discussions) could be affected by personal bias, a combination of both objective (e.g. performance standards) and subjective records usually produce more reliable results (Wagonhurst, 2002).

Four basic steps assist in identifying the duration and the type of training that will engage trainees:

- *gathering information*—sufficient enough to identify the organisation's training needs. This can be achieved through interviews, observations, questionnaires, surveys,

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performance appraisals, tests, document reviews, assessment centres, focus group discussions and advisory committees

- *determining the needs that T&D can meet*—because it is not possible to correct all deficiencies through training. The main purpose of training is to furnish employees who are able and willing to learn with sufficient skills and knowledge. Other issues that training cannot address, e.g. remuneration, insufficient materials and out-dated equipment, should be identified and communicated to the management

- *recommending solutions to the organisation's needs*—by deciding whether formal training is the most suitable method to meet those needs. Training providers also need to determine if an existing program is sufficient or if they need to design a new one

- *developing a training proposal*—by specifying the training needs, the anticipated results, the trainees, and the probable consequences if the activity does not take place.

These steps will differ depending on the specific needs of the organisation involved (Brown, 2002). The determination of the right training technique is crucial because inadequate assessment of training may result in interventions that are unsuitable or ineffective. This in turn can either have a negative organisational impact or, worse still, have detrimental consequences on the employees' productivity (Wagonhurst, 2002). Several questions may guide trainers in choosing the analysis techniques to use when assessing training needs (Brown, 2002; Hauer & Quill, 2011; Mun, 1997). Some of these questions which are pertinent both at the organisational and the national level include:

1. Why is a TNA necessary?

2. How much does it cost to carry out a TNA?

3. How is TNA perceived by the stakeholders?

4. What are the qualifications of those carrying out the TNA?

5. When will the TNA process be completed?

6. How will the TNA's success be measured?

Answering the above questions requires input from a wide range of stakeholders. For instance, the trainees know what they want to achieve through training and their views should be taken into

account before trainers make any training decisions, while other industry stakeholders should be represented in the program design (Kitainge, 2003b; Kagaari, 2007). Involving potential trainees in decision making, may boost morale, but the training may not yield successful results in the firms because what the employees want from a T&D program, may be very different from what they actually need (van Eerde, Tang & Talbot, 2008). In his study of VET trainees' employability in Kyambogo University in Uganda, Kagaari (2007) found that the main cause of discontent and frustration between employees and employers was the lack of the latter's involvement in decision-making during the training period. He therefore advises that universities need to build linkages with stakeholders, in particular the industry and employment agencies, for their programs' growth and sustainability. However, as Allais (2012) points out, most employers are more focussed on short-term labour market needs, rather than long-term economic and the needs of young people. Thus their contributions to the T&D programs should be gauged against broader national objectives.

At a wider level such as an industry, a TNA is an important prerequisite to any training because of widespread and contrasting factors that need to be considered. Kenya has a variety of contrasting geographical, economic and climatic conditions, which necessitate accurate identification of specific training needs. Thus an industry TNA will require more planning, higher funding, more expertise and methods of data gathering that cater for a wider population, such as interviews, advisory committees, surveys and questionnaires, examinations and tests, document reviews and the use of assessment centres to achieve comprehensive results (Hauer & Quill, 2011).

Data gathering techniques dictate the reliability of the TNA results and subsequently the quality of the T&D process. For instance, to ensure the reliability of the results of their study on fall-prevention among carpenters, Kaskutas et al. (2010) used multiple assessment methods at different levels, such as: focus group discussions, surveys and observations using a standardised tool. In addition they made use of a large sample of respondents and collaborating with a variety of stakeholders, such as university researchers, carpenters' union leaders, construction contractors, and providers of apprenticeship training programs. Data-gathering techniques and their interrelationships are usually presented in the form of models that assist the comprehension TNA processes. In the following section is a discussion of four models that are deemed relevant to this study.

3.3.1.2 Models of training needs analysis

In the last four decades, two theoretical structures of TNA have had a substantial impact on

training literature: first, the organisation–task–person (OTP) analysis, which has largely influenced academic literature; and second, the performance analysis method, which is more popular with training providers due to its applicability (Taylor et al., 1998). Beyond these two major structures, a third model integrates the OTP and performance analysis models to come up with the integrative model, which was proposed by Taylor et al. in 1998, and a fourth model, a model for partner institute in the banking industry was developed by Ridha (1998) for institutes in the banking industry. These four models are discussed in the following sections.

The OTP model is organised as a system of three variables (organisation, task and person) and was first introduced by McGhee and Thayer in 1961 (cited in Taylor et al., 1998). When carrying out an organisational analysis, a study of an organisation's goals and objectives, resource allocation and efficiency monitors assists when deciding if and where training is required. A task analysis is performed to determine the training content and the skills that need to be included in the curriculum. This involves establishing performance standards, identifying tasks and clarifying the requisite knowledge, skills and competencies to successfully perform identified tasks. Lastly, the person analysis establishes the knowledge, skills and competencies of each employee in comparison to the set standards of performance. However, the OTP model fails to guide training providers on the method of selecting a data-gathering technique from the innumerable options and information sources (Taylor et al., 1998).

The performance analysis model is primarily concerned with establishing the causes of discrepancies between the predicted and actual performance outcomes (Rummler, 1987). This model's basic precept is that a training gap occurs, due exclusively to a performance inconsistency attributed to deficiency, incompetency or low skill levels, and not to any other possible reason, such as rewards or retributions. The model advocates for changes in the work environment as the solution to performance problems in work places, arguing that most of the training done does not translate to improved work behaviour. Taylor et al. (1998) identified four major limitations to the performance analysis model:

- Training is only indicated when there is a discrepancy in performance; training for continuous improvement is ignored or omitted.

- Although discrepancies in performance are caused by a combination of either inadequate knowledge of skills or work-related issues, the model suggests that only one of these can be the cause, not both.

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- The model fails to distinguish between organisationally valued outcomes and job behaviour.

- The model fails to offer guidance on how to collect data that can be used to determine the causes of performance discrepancies and ascertain whether training is the solution to the organisation's problems.

The integrative model, proposed by Taylor et al. (1998), integrates both the OTP and performance analysis approach. In this model, the expected training output identified in the TNA is combined with the actual training activity, training objectives and evaluation to form the critical components of the program. This model advocates that developments in knowledge, attitude, skills, workplace performance and outcomes can be attained through linking training with other effective non-training activities. Thus the quality of the linkages between training and outcomes influences the degree to which a training activity affects the organisationally valued results.

The model for partner institutes in the banking industry was developed by Ridha (1998). This model is composed of six stages, namely: plan to plan, data gathering, developing data-gathering cycle, implementation, data analysis and plan development, and evaluation and feedback. These features are discussed below:

1. *Plan to plan:* includes all preparatory activities required to carry out a systematic TNA within the organisations.

2. *Data gathering methods and procedure:* involves developing techniques and identifying tools for data collection for the organisations involved.

3. *Developing data-gathering cycle*: presents the steps that will be taken to implement the TNA processes.

4. *Implementation*: executes the actual needs assessment through processes such as resources allocation, timing and scheduling.

5. *Data analysis and plan development:* relates to the choice of a suitable data analysis technique to facilitate data interpretation, discussion, recommendations and conclusions.

6. *Evaluation and feedback*: involves deciding upon the evaluation criteria and then evaluating the outcomes against the set criteria. This stage also includes establishing proper feedback activities needed to disseminate information within the programs.

The four models described above suggest the need to obtain information from three main sources—organisational needs, task or skill needs and individual or personal needs – which all largely influence the success of the training program and which are all related to the overall organisational goal. The three sources were found to be sufficient by van Eerde, Tang and Talbot (2008) in a study titled "The mediating role of training utility in the relationship between training needs assessment and organizational effectiveness", which sought to examine the relationship that exists between a comprehensive TNA and the level of effectiveness in an organisation. The study concluded that a comprehensive TNA improves organisational positive results.

Further, as Taylor and Driscoll (1998) suggest, there is a need to look for other endogenous variables that may influence the training decision. While all the four models are important for understanding the processes of TNA, the fourth model offers a wider insight to training because it was developed for many organisations that share common values. Its contribution is the step-by-step process of conducting the TNA, which starts with planning and ends with evaluation.

The first three models—OTP, performance analysis and the integrated model are ideal for an organisation because they target those trainees who are already employed in particular organisations. For instance, the performance analysis model seeks to correct gaps between the actual and the expected performance through measures such as productivity, sales and employee turnover. However, at the industry level the models would need to be expanded to cater for diverse interests of potential trainees who may have never been employed, such as school leavers, and those that want to upgrade their skills or change jobs. The fourth model developed by Ridha (1998) was meant for use by a number of institutes, which shared a common goal. Thus it sought to gather diverse data that can be used by all institutes in the banking industry—which is what an industrial T&D seeks to achieve. As such this study will refer to the last model in identifying the attributes to be included in the T&DNA phase of a T&D framework for the MVRSI in Kenya.

3.3.1.3 Individual variables

In an organisation, information or data derived from the workers' performance appraisals, employee surveys, interviews and tests determine the training design, content and methods to address any deficiencies that hinder employees from reaching the set performance standards (Brown, 2002). It has been suggested "…that individual and situational characteristics may be critical factors before training (by relating to training motivation), during training (by relating to learning levels), and after training (by relating to transfer and job performance)" (Colquitt, LePine & Noe, 2000, p. 700).

Individual characteristics, such as age, motivation, attitude, family background and ambition, may influence the outcome of the training program. For example, Colquit et al. (2000) found that older learners had lower levels of motivation, learning abilities and post-training self-worth. This suggests that teachers and instructors need to take precautions and find ingenious ways to ensure the success of older trainees. Thus the design and development of training content, and methods using advanced technologies (such as online-based coaching or workplace simulation) need to be critically examined to make these more appropriate to older learners.

Understanding individual variables enables trainers to focus on those areas that facilitate the employee to not only be more productive, but to acquire higher job satisfaction. For example, the needs of youths and mature-age learners are quite different because the latter have more experiences to draw upon besides needing to juggle multiple priorities, while the former tend to be more inquisitive and explorative (Wagonhurst, 2002). In these circumstances, training providers need to employ a mixture of auditory, visual, interactive and self-directed activities to cater for different age groups.

In developing a more responsive industry-based T&D framework, individual characteristics such as age, gender, family backgrounds and economic status need to be analysed before the start of the training. In Chapter 2 it was noted that vocational courses in Kenya are dominated by males, while training programs are not flexible enough to cater for potential trainees who are already in employment or care givers. Furthermore, admission to training courses is not pegged to individual interests, but on national exam grades (UNDP, 2010; Kagaari, 2007). A comprehensive TNA would provide empirical data that can be used to negotiate for responsive courses and training time-tables.

3.3.1.4 Task variables

Task analysis involves a systematic investigation of the competencies required to accurately perform a task with a view to ascertaining areas of discrepancies and the most appropriate training methods (Armstrong, 2009). Task analysis begins with the examination of job requirements (job descriptions and specifications), and it compares employee knowledge and skills and the expected performance standards to establish gaps that can be addressed through training. Brown (2002, p. 573) identified areas of task analysis:

- tasks that have to be performed;
- conditions under which tasks are to be performed;
- how often and when tasks are performed;
- quantity and quality of performance required;

- skills and knowledge required to perform tasks;
- where and how these skills are best acquired.

The above areas are essential in identifying competencies and behaviours that are necessary to perform a task well, meet job performance standards and acquire the requisite knowledge, skills, attitudes and abilities (Stone, 2010).

The task variables are concerned with the most effective way of performing a job to achieve the organisational goal. The process of task analyses is performed to determine the specific job's requirements by examining the job description and specifications so as to provide information on performance levels and the skills needed to accomplish the tasks (Brown, 2002). In addition, a task analysis identifies the frequency of the training lessons, the quality and quantity of the training program, where and how to acquire the skills for the industry, and the conditions under which the tasks are to be performed.

At a national level, task analysis forms the basis of determining performance specifications that set out the skills, knowledge and their applications requisite for effective participation at the workplace (Australian National Training Authority [ANTA], 2004). Moreover, the task analysis is instrumental in developing the curriculum for instruction because it specifies what the trainee needs to learn to be productive in the job and, therefore, the training content (van Eerde, Tang & Talbot, 2008). The accurate assessment of a task is important for this study, as it seeks to develop a responsive and relevant T&D framework for Kenya, which can be enhanced by designing a relevant curriculum.

The GoK policy makers have a duty to identify the different segments of society, and address their skill needs. In Kenya, different parts of the country have different economic activities; this situation calls for policy makers to be innovative in addressing the differing needs. For instance, in the northern parts of the country courses related to livestock rearing would be most appropriate, in the central parts agriculture, while the western parts would benefit from fishing-related courses. Ngoa-Nguele and Stolovich (2001) note that in many African countries there are high poverty and unemployment rates, most firms are foreign owned, job skills exhibit low productivity and societies are masculine-dominated. These factors affect training in so far as enrolment and affordability of the training is concerned. In Australia, ANTA acknowledged in its national strategy for VET the need to identify and address the skill needs of the indigenous people, the youth, women, people from diverse cultures and those living with disability (ANTA, 2004).

3.3.1.5 Organisational variables

Accurately identifying employees' training needs entails a thorough examination of the organisation's aims, objectives, productivity, staff, raw materials availability, running costs and other aspects that may affect the training activity (Brown, 2002). This is because a carefully conducted TNA assists the organisation in the following ways: first, by formulating organisational goals and objectives, and the most effective and efficient way of accomplishing them; second, by detecting performance incongruities between employee skill levels and the expected skills; third, by measuring the program's effectiveness; and fourth, by identifying the best environment for optimum attainment for T&D. Further, organisational analysis "identifies the knowledge, skills, and abilities that employees will need for the future, as the organisation and their jobs evolve or change" (Brown, 2002, p. 573). Thus, the organisational analysis should aim to look at the organisation as a whole with the principal aim of determining which organisational departments the training activity should be conducted; be they social, legal, technological or other areas that may require change (Stone, 2010).

Brown (2002) identified three changes that management needs to anticipate and plan for before training:

- future skill needs, which can be occasioned by

  - compliance with affirmative action plans, for example equal employment opportunities that require adherence

  - installation of new equipment

  - changes in performance standards and procedures, which necessitate new skills

  - working as a team environment, which requires new and enhanced personal, interpersonal and decision-making skills.

- changes in the labour pool. These maybe occasioned by new political demands, like changes in workforce participation, or may be due to entry to the labour force by more women, minorities, immigrants, and older workers, necessitating ingenious ways of accommodating diverse needs to meet performance targets

- changes in laws and regulations. These may include such laws as discrimination and occupational health and safety (OHS) that will impact on the training needs of organisations.

Changes such as those mentioned above necessitate a shift from previous training programs that did not adequately address the organisational needs, to new training programs that address areas of concern. Additional resources, such as new technologies, instruction methods, and trainers, may be required to cater for the new programs.

As identified in section 3.2, the aim of a T&D program is to enable graduates to acquire knowledge, skills and attitudes, and to relate these to their daily activities. Furthermore, the results of a T&D program ought to improve organisational productivity by making efficient use of the resources to improve productivity, improve problems related to high turnover, employee grievances, absenteeism, quality control issues, customer complaints and accident rates. Understanding the organisational goals ensures that the training is not wasted on tasks or individuals that are not needed in the organisation. In addition, an organisational analysis helps the training providers to have intra-links and inter-links within the different areas of the organisation.

3.2.2   *Training objectives*

Training objectives are derived from the results of a TNA, and they confer a comprehensive set of behavioural traits that provide direction for the training effort and for benchmarking the evaluation of the training (Stone, 2010). Issues that are important for the study areas should be noted and addressed at this level to ensure successful completion of the program. As such, designing and developing T&D programs necessitate that the training techniques should be based on an awareness of the trainees' preferred learning techniques, styles of learning, learning philosophies and the evaluation methods (Robertson, 2008).

Further, objectives can be based on the differences between performance standards or the changes needed if the training is to be regarded as successful, and the actual workplace performance after the training (Armstrong, 2009). Any gaps identified between the set criteria and the ensuing behaviour will indicate deficiencies in the training program. Objectives are therefore useful in providing a sound basis: "for the selection or designing of instructional content and procedures; for evaluating or assessing the success of the instruction and for organising the student's own efforts and activities for the accomplishment of the important instructional intents" (Mager, 1975, as cited in Dowling & McKinnon, 2002, p. 41).

Objectives are important at both the organisational and industrial level because of the following factors: they define the expectations of the trainee and the trainer; they define the content or

materials to be included in the training program; they identify the most appropriate methods and approaches to be used; and they define the evaluation criteria (Dowling & McKinnon, 2002). For example, a training program for the European Union takes into account important globalisation issues identified, such as skills attainment levels and unemployment levels among the youth, low educational qualification levels among the adults and proficiency gaps in both youth and mature-age trainees (Masson & Fretwell, 2009).

At the industrial level, formulating objectives is vital for curriculum design, implementation and evaluation because they are expected to address all these areas, by defining performance standards, defining the training activities and setting measuring standards. Objectives should therefore be based on comprehensive TNA, so that vital areas are not excluded. In addition, revising and updating national objectives ensures that global, regional and national changes are catered for. Because they guide the T&D process, understanding the role that training objectives play is important in this study, which is aimed at proposing an appropriate T&D framework for TVET in the MVRSI.

3.4   Activity phase

The activity phase begins once the training objectives have been set based on the training needs identified, and the considerations of all other factors that may contribute to the realisation of the organisations' set objectives. VET emphasises skill development, and specifies quantifiable objectives that result in noticeable behaviour changes in an academic setting, such as the class lecture or the lab where there is skill-based training (Wagonhurst, 2002). The activity phase involves considering both the content and the activities that contribute to the design of the T&D because, ordinarily, abstract knowledge is acquired before skills application (Stone, 2010). Accordingly, Stone (2010) identified three activities carried out in this phase: establishing a suitable location (on-the-job, off-the-job, e-learning, and apprenticeships), deciding on the timing or the duration of each activity and identifying the presenters or trainers.

3.4.1   Designing training programs

To design appropriate curriculum with reliable and suitable content for instruction, planners must have a clear idea of the 'why', 'what' and 'how' they want to achieve through the training. The training program aims to achieve the objectives set at the T&DNA phase through the most efficient way and through considering both content and process. In addition, Armstrong (2009) advises that the techniques the program is going to use and the facilities available for training are

an important part of this process.

Training for specific skills targets particular cohorts in an organisation due to their varied needs; it is usually offered to the more academically advanced employees. For example, Canadian employees who have attained a university degree are twice as likely to take part in employer-sponsored learning activities compared to their counterparts who hold a high-school diploma (Leckie, Leonard, Turcotte & Wallace, 2001). Furthermore, workers with higher qualifications, such as managers, have a higher chance of accessing training programmes than, for instance, the sales staff, clerical staff or production personnel without any certification. The reason for this is that highly educated employees have a higher success rate in training activities, thus justifying the training investment decision (Rabemananjara & Parsley, 2006).

At an industrial level, trainees' academic qualifications have a vital role to play in the acquisition of skills and knowledge. A firm foundation in basic skills dealing with arithmetic, mastery of the language of instruction and literacy determines the performance and effectiveness of the program. According to UNESCO/ILO (2002, p. 57) "Good quality basic education and initial training, availability of adult and second chance education, together with a learning culture, ensure high levels of participation in continuous education and training." Where this foundation is missing, then problems are bound to arise. For instance, Nkirina (2010) established that VET entrepreneurship students in Tanzania found the education materials too difficult to understand since they had only a primary school level of education. Furthermore, the materials were in English yet the medium of instruction was Swahili, consequently diluting and misrepresenting the intended information. Therefore, raising the learners' academic qualifications would require the integration of academic courses such as language and arithmetic in the training institutions, or delaying the entry of the trainees until they acquire a secondary school education.

To ensure quality vocational teachers, Khasawneh, Olimat, Qablan and Abu-Tiner (2008) recommended to the Jordanian universities that vocational curriculum designers should adhere to the needs of students and society by ensuring that classes are connected to the real world and lead to the development of positive attitudes toward the value of work for the good of their society. Similarly, Wallenborn (2010) recommended that VET training methods for context and job-related capabilities be revised to be more flexible and practically oriented, and to improve productivity and boost labour market perceptions so as to enhance transferability from institution to workplace. Designing an acceptable curriculum, therefore, requires consultation with the program's stakeholders to ensure that the governments deliver the skills required to meet their needs. However, in most developing countries, the private sector seems unable to pressure the

governments to assimilate their ideas and is not able to recognise that the constraints on enterprise development have a direct link to shortages of skilled workers (Kingombe, 2006). This inability of accessing the stakeholder's views impacts negatively on curriculum implementation as it is discussed in the following section.

3.4.2   *Program implementation*

Training can be categorised as being formal or informal; and also on-the-job or off-the-job. Formal training is structured, planned in advance and has a specified duration. Informal training is unplanned, unstructured, and easily adapted to emerging situations, and is usually carried out at the workplace either intentionally or unintentionally (Armstrong, 2009).

Formal training involves conducting the training activity using structured programs that consist of instruction and practical activities that may be conducted on- or off-the-job (Armstrong, 2009). It can be defined as the training activity that is conducted in traditional education institutions or centres (UNESCO-UNEVOC, 2008), in an organised structure and whose outcomes are accredited. In Africa, formal skills training comprises post school technical and vocational instruction.

While most MSE engage in informal training, due to its applicability and relevance (Kitainge, 2004; Wachira et al., 2006), formal training has a vital role in skill development. A lack of formal training can disadvantage employees from external labour markets (Bishop, 2008) because when carefully designed and conducted formal training can play an important role in the promotion of business strategies and competitiveness (Walker & Redmond, 2008).

Formal on-the-job training occurs when a structured form of training occurs on-the-job. Kitainge (2001) observes that this kind of training is effective because it helps the individual to internalise the real job requirements faster and more efficiently. A combined institution and industry partnership training can yield favourable results. For example, the German vocational system has been hailed as a successful training model that combines general education and training for a specific skilled occupation or a profession (Deissinger, 1997; Dieckhoff, 2008; Hippach-Schneider et al., 2007). This kind of instruction used in vocational schools is referred to as the 'dual system' because it blends classroom teaching with the apprenticeship system. The duration of schooling and training in the dual system is influenced by previous vocational knowledge and may entail part-time studies of up to three years of instruction or full-time training that lasts one year. Deissinger and Hellwig (2005) identified two major doctrines that influence a particular

'philosophy' of training in institutional-based apprenticeship structure. The first is the learning sites' dichotomy where the training is conducted partly in the vocational institutions and partly at the workplace with learners acquiring both on- and off-the-job experiences; and the second is the vocational training principle (Berufsprinzip), which advocates for a holistic concept of competence that involves more than just a specific workplace. The vocational principle highlights the 'process character' of the apprenticeship structure and its emphasis on the 'input' or 'contents' facet.

The dual system learners include graduates of general secondary school, special institutions, comprehensive, intermediate, grammar and vocational schools. Once they complete their training, most of the participants join employment as skilled workers and, later on, the majority take advantage of available opportunities to continue their vocational training. However, some graduates may also attain the academic qualifications necessary for admission to a *Fachhochschule* for one year of full-time study, which makes them eligible for higher education. Vocational secondary schools and *Fachoberschule* therefore build on the dual system's training, consolidate vocational experience and lead to the attainment of qualifications to enter a college for further training (Hippach-Schneider et al., 2007).

The German dual system has been largely successful because of its ability to involve the industry into the training system. However, Onsomu, Wambugu and Wamalwa (2009) argue that the system has proven difficult to replicate in many countries because it has been found to be rigid, slow to integrate new technologies and only suited for the manufacturing sector but not others such as the service sector. However, the authors acknowledge that some countries such as Thailand, Korea and Mali have managed to put in place dual systems successfully. The realisation that some T&D models may work in some parts of the world and not others cautions policy makers not to blindly copy 'successful' programs, which may have been influenced by a combination of social, cultural and economic factors.

Informal training is largely experiential and accounts for over 70 per cent of all skills and competencies acquired in the industry (Armstrong, 2009), making it the primary form of skill transfer in the world. Golding, Brown and Foley (2009) regard informal training as unintentional, unorganised and unsystematic, usually occurring as a by-product of other social settings. Often informal training occurs on-the-job and through the process of 'learning by doing' the trainee works for the proprietor of a business, or 'master', for a given time so as to learn a trade or skill (Aboagye, 1986). Most of the MSE workers in Kenya acquired their skills on-the-job by chance,

by trial and error, or by watching others, such as parents or older siblings, perform tasks (King, 1987).

On-the-job informal training is a traditional form of training that exists widely around the world but varies in form and content from one place to another. In most developing countries, on-the-job training is frequently the only avenue of skills acquisition (Fluitman, 1999). This is done by workers helping each other out , usually the more experienced ones showing the newer ones how to solve work related problems—making this an acceptable activity for many managers as they realise its benefits. However, this kind of skill transfer can be disadvantageous because the instructor's ability to offer training is confined to his or her current skill levels and knowledge, which often results in low productivity (Ziderman, 2003).

The duration of on-the-job training in many African countries is not fixed as it is dependent on the type of trade, how adaptive the trainee is at learning and also the master's satisfaction with the quality of the trainee's work (Pollard &Hillage, 2001). Bas (1988) observed that in West Africa traditional on-the-job training tends to be too long (sometimes as long as six to seven years for carpentry); while in 1994, in the same geographical area, this had changed to an average period of three to four years (Fluitman, 1999). Further, the traditional training structures include a lengthy period of socialisation during which time the trainees' loyalty and respect win them the acceptance of their master trainers, earning the trainees the right to train further. Finally, the termination of the training is often delayed simply because the trainee cannot raise the funds he needs to set up his own business (Bas, 1988).

The MSE trainers are disinclined to carry out intensive and efficient training, but often retain the trainees for longer than necessary because they perceive them as cheap labour or potential competitors. In addition, most employees will evaluate the success of their training based on the number of years they expect the trainee to stay with them, because there is a probability that any transferable skill will lead to an employee joining another firm. This situation was aptly captured by Kinyanjui (2000) in a study of *jua kali* enterprises clusters where findings revealed that the labour pool in most enterprises was dominated by trainees, who after attaining low levels of skills in a short duration opened similar enterprises to compete with the existing ones. This cycle was repeated with the same ideas and knowledge circulating within the enterprises.

Due to the widespread use of training at the workplace and the ease of transfer of learning to real work situations, informal training has a vital role in skill acquisition. Its contribution to different economies in the world ought to prompt the policy-makers to accord it the support it needs to

realise its full training potential. Kitainge (2009, p. 43) argues that ". . . future trends demand that learning at the workplace be accepted as authentic and a possible avenue for upgrading skills and knowledge to the changing world of work demands." In addition, Golding et al. (2009) recommend that informal and formal training be recognised as complementary and not separate entities. The aim of policy makers therefore, is to look for ways of integrating the formal and informal systems to realise maximum benefits in skills production. The two types of training serve complimentary purposes: formal training is often necessary to move employees away from their workplaces to a place devoid of everyday work conditions, which allows the trainees to study theoretical foundations and to be exposed to diverse and innovative concepts (Beardwell & Holden, 1997), while the informal training is favourable for rapid skills transfer. Other methods such as coaching, mentoring, bite-sized learning, job shadowing, cross-functional or cross-site project work are best done at the workplace (Armstrong, 2009, p. 667).

Apprenticeship which is considered a formal training program is practised in different regions and countries and has a variety of definitions. Generally it is accepted that an apprenticeship is a form of formal training that involves supervision by an experienced worker or master during which time practice and theory are covered. Apprenticeships have been a traditional method for training tradesmen such as technicians, mechanics, electricians and carpenters (Stone, 2010). According to UNDP (2010), the apprenticeship system in Kenya involves young people being attached to ongoing projects in the constituency or local industries under agreement or corporate social responsibility. In this thesis, apprenticeships will be discussed as a component of TVET alongside institution-based training.

Apprenticeships allow the workers not only to train, but also to work and obtain pay increases as their skills improve (A. Smith, 2003). Due to the large amount of money needed for institutionalised VET, apprenticeship could be the choice of the future due to its ease of transferability and cost effectiveness. Developing countries could take advantage of skills acquisition by developing their apprenticeship structures because they are more effective at skills' transfer, and they also increase the likelihood of workplace training upgrades (Bonnal, Mendes, & Sofe, 2002). Ngoa-Nguele and Stolovich (2001) favour a structured on-the-job training, which, if adapted by developing nations, can have a significant improvement on the performance and capability of workers at a lower cost than formal training. Structured apprenticeship has enabled Australia to have one of the highest proportion of employers in apprenticeships and traineeships because they are located in industries and found in occupations where employment growth is rapid (E. Smith, 2007). In addition, the Australian VET system has well-developed training

packages with a framework of qualification and competency standards that makes contracts of training possible.

E-learning, or electronic learning, is a recent form of formal training that is gaining momentum. It is defined as "the delivery and administration of learning opportunities and support via computer, networked and web-based technology to help individual performance and development" (Pollard & Hillage, 2001, p. 41). E-learning does not replace face-to-face instruction; rather, it supplements it by enabling knowledge transfer to take place when it is appropriate for the trainees and when it is most convenient to do so. The process comprises defining systems to encourage and facilitate the creation of learning communities by focusing on the learner and satisfying individual learning needs (Armstrong, 2009). This is achieved through connecting people by the use of computers to enable networking and sharing of information. For instance, Armstrong (2009) indicates that the computer system company, Cisco, offers a curriculum organised by job titles, products and specific technologies on its corporate intranet, while some other computer programs are designed specifically for specific learners. While skill-based VET requires a great deal of interaction, especially in the workshops and labs, e-learning can supplement face-to-face interaction for theory concepts. Further, it can effectively be used to create simulated environments for skill training.

E-learning is an effective method of teaching that can allow institutions to have a much wider reach to the population. Although it requires massive initial investment in infrastructure such as computer hardware and software, TVET institutions can greatly enhance their status and reach by introducing online courses. The GoK and the industry need to be encouraged to support institutions with equipment and trainers to encourage a bigger participation of trainees who for one reason or another cannot attend on-campus classes. The fast pace of technological changes require prompt action because skills are almost becoming obsolete as soon as they are acquired and, e-learning can ensure employees' competitiveness by fast-tracking global changes (Kitainge, 2004b). In Kenya, there is a growing population of trainees who have accepted to study online form mostly foreign institutions (KIE, 2006), and local institutions could follow suit.

Competence-based training aims at developing specific competencies in order for the employee to meet predetermined job performance standards; as Stone (2010, p. 354) has said "competencies are the demonstrable and assessable skills that distinguish effective from ineffective job performance". Competence-based training involves four steps:

- profiling the essential capabilities

- selecting training programs requisite for developing the skills

- developing specific programs for each trainee

- evaluating each skill.

Although competence-based training is committed to minimising ambiguity and concentrating on vital skills, if a practice (e.g. management) has more parts than can be encompassed in defining a competency standard, then inevitably deficiencies will be experienced during practice (Hodge, 2011). Thus, developing a training manual for a competency requires a comprehensive understanding of the whole practice, because some practices that are too broad may not be suitable for competence-based training. Brockmann, Clarke, Méhaut and Winch (2008) observed that the concept of competence-based training differs between specific countries. For instance, in France competence is a broadly defined occupational field that takes a multi-dimensional approach based on the integration of theoretical and practical knowledge, as well as social and personal qualities. In England, however, competence denotes fragmented and narrowly defined tasks, which have minimal supporting knowledge. In Australia, the VET system is largely competence-based and its approach is specific based on industry derived competency standards and offered through training packages that train for different levels of certification (E. Smith, 2010). At one time, the trainers were excluded in the formulation of the packages (Hodge, 2011) but they have now been included in recognition of their expert role in the training process (E. Smith, 2010). However, Cooney and Long (2010) explain that the 'industry-led' Australian competence-based T&D system has "weak links between vocational education and training and employment" (p. 29).

Competency and specialisation in a skill is an important aspect in the workplace because it ensures more skilful work; but Munro (2007) noted that, for future participation at their place of work, employers prefer workers who possess broader generic competencies rather than narrow, specific skills. They prefer an all-round worker who can not only do technical work, but who possesses other skills, such as problem-solving and decision-making abilities. It has been argued that competence-based training lays emphasis on imparting and assessing practical skills and competencies instead of integrating these skills with underpinning theoretical knowledge (Toner, 2010; E. Smith 2010). In developing a broader T&D program, it is essential to understand the concept of competency as applied to different geographical areas and practices because this has an influence on the achievements of specific program's training objectives.

Training activities actualise the training objectives by conducting activities that transfer knowledge and competency from the trainer to the trainee. Once the activities have taken place, it is essential to develop evaluation processes that will determine the level of the program's effectiveness in achieving its set objectives. The following section discusses the last phase of a T&D model, the training evaluation, which will involve a discussion of three areas: developing evaluation criteria, models of training evaluation and the transfer performance.

3.5   Evaluation phase

Evaluation is the means by which a training program's outcomes are compared to the set objectives with the aim of finding out the extent to which the training process has achieved its purpose (Armstrong, 2009). A particular training is tailored to suit the needs of a specific time (Staley, 2008), and evaluation studies the level at which the training program meets the set targets through activities such as organisational performance changes, training content and design evaluation, and changes in learners (Alvarez, Garofano & Salas, 2004).

Although post-training evaluation is crucial, evaluation can be done at any stage of the training process. The aim of evaluation is to guide the training activity to ensure its effectiveness, while correcting any deficiencies identified during implementation. To carry out effective evaluation, it is necessary to identify and develop evaluation criteria to guide the process. The process of identifying and developing evaluation criteria will be discussed in the following section.

3.5.1   Developing evaluation criteria

The effectiveness of the training program should be a major concern for training providers and policy makers, because it guides them when considering the relevance and suitability of the activity. Evaluation and effectiveness of training can be treated as synonymous, but Alvarez et al. (2004) identified three differences between them. First, evaluation is a procedural method for determining learning outcomes and provides insights into the training results, while training effectiveness is a hypothetical methodology for comprehending those results with the focus being on the whole learning system. Second, evaluation is used to identify the training outcomes as an individual's improvements in learning and job performance, while effectiveness is indicated by whether an organisation has benefitted from such learning. Third, evaluation outcomes define what took place at the end of the training program, while effectiveness results describe why those outcomes were achieved in order to guide experts to develop interventions that will improve the training.

The accurate definition of goals and objectives of the training program determine the evaluation procedures and constructs that form the basis of a comprehensive assessment. This varies depending on different target groups' emphasis, and between different countries. For instance, a major VET goal of different governments is to empower young people to adapt to a dynamic environment through life-long training; for the workers, however, the emphasis could be wage increases, to the employer, improved productivity, to the trainee, employment and wages, while from a policy-maker's view it is to decrease societal expenses (Fretwell, 2003). Fretwell (2003) therefore proposed a framework that identifies how broad evaluation occurs in various constituents of VET schemes. The framework includes:

- defining the objectives

- measuring external VET outputs

- use of transnational standards and valuations

- assessment procedures and concerns

- corroborating the outcomes of VET evaluation.

Developing evaluation criteria assists in identifying the part of the T&D model to be evaluated by defining the expectations that the program is expected to achieve, the means of obtaining the data required for evaluation and the data analysing methods (Armstrong, 2009). Over the years, different researchers have developed models of training evaluations, four of which are discussed in the following section.

3.5.2   Models of training evaluations

The following section examines four different models for measuring the success of T&D programs. First, in 1959, Kirkpatrick published a four-dimensional evaluation method that tests reactions, learning, behaviour and results—a simple measurement method for comprehending training evaluation, and the most quoted procedure (Kirkpatrick & Kirkpatrick, 2005). In this model,

> . . . learning is measured during training and refers to attitudinal, cognitive, and behavioral learning. Behavior refers to "on–the–job" performance and, thus, is measured after training. Additionally, reactions to training are related to learning, learning is related to behavior, and behavior is related to results. (Alvarez et al., 2004, p. 388)

The Kirkpatrick model has stood the test of time and is widely used to evaluate T&D programs in different fields. For example, van Eerde et al. (2008) used the four levels to measure the effect of training programs to organisational effectiveness, while Piyali et al. (2011) used only the reaction level to do the same. The four dimensions measure different aspects of the training program because they progress from the stage of simply getting a reaction to the training to the more complex processes of measuring results. This model is discussed in more detail in the following chapter.

The second model was developed by Tannenbaum, Mathieu and Martineau, (1993) who added post-training attributes to Kirkpatrick's model and separated evaluation outcomes into transfer and training performances. This model was tested by Alvarez et al. (2004) when constructing "An integrated model of training evaluation and effectiveness". The authors used evaluation measures such as training and transfer performance, and cognitive learning; and effectiveness variables such as pre-training experience and self-efficacy, and post training interventions, such as mastery orientation and learning principles.

In the third model, Holton (1996) incorporated three evaluation objects: transfer, learning and results. He did not consider reactions as a main outcome of training; he regarded them as an intervening or regulating outcome between trainees' learning drive and the actual learning. Thus, learning is linked to transfer, which in turn is associated with the outcomes.

Finally, in the fourth model, Kraiger (2002) provided a model that emphasises three objectives for an evaluation program: learning material and design (i.e. delivery, strategy, and rationality of training), learners' behavioural modifications (i.e. emotional, intellectual, and developmental) and structural benefits (i.e. transferability, work performance, and outcomes). The contribution of the fourth model is that it advances the measurement of the learners' behaviour changes as a result of the training. These measurements can be quite challenging because it is difficult to tell if the learners' emotion or intellect change is as a result of training.

A different perspective in training evaluation was advanced by Kearns and Miller (1997) who advocated for a 'return on investment' (ROI) as a means of assessing the overall impact of training in organisational performance, arguing that particular measures should be used to evaluate specific training, for example customer satisfaction or return on sales, which should improve by at least per cent (Alvarez et al., 2004). Armstrong (2009) adds that besides concentrating on the traditional levels of evaluation there is a need to "concentrate more on the validation of the total learning process and on the outcomes of learning, which means focusing on

the return on expectation" (p. 696). This could be achieved through attributes such as increased customer satisfaction, volume of sales and increased production. But this kind of measurement is difficult; in some occupations performance characteristics are difficult to identify and even when identified they cannot always be attributed to training (van Eerde et al., 2008). Attributes such as sales volumes may be dictated by outside factors like security, climatic conditions or the rate of inflation.

The models of evaluation discussed above assist in conceptualising how, where and why evaluation measures can be used. The Kirkpatrick model that was first published in 1959 and composed of four levels reactions, learning, behaviour and results is simple and most comprehensive for use in a T&D model, because the other models components can be integrated into its four levels. For instance: post-training attitudes proposed by Tannenbaum (1993) and transfer of learning proposed by Holton (1996) can be integrated in the behaviour phase; learning material and design, learners' behavioural modifications and structural benefits learning materials proposed by Kraiger and Kearn (1997)..

3.5.3 Transfer performance

Transfer performances are measurable behavioural changes of job performance that result from training and can be judged through performance appraisal systems or job behaviour assessments (Alvarez et al., 2004). The transfer performance involves applying knowledge to situations or circumstances that are different from one that is not construed (e.g. learning to operate a piece of equipment or to apply a procedure similar to procedures one has been trained in) (Kitainge, 2009). Studies show that, despite the superior quality of a specific training program, the amount of competency transfer from the training venue to the workplace can either be very low or nothing at all (Donovan & Darcy, 2011; Wagonhurst, 2002). Thus, if a training program aims at facilitating transfer of skills and the application to the work environment, it is vital for trainers and supervisors to perform a thorough determination of the individuals' goals and performance objectives (Chiaburu & Tekleab, 2005); otherwise, workers may not regard the learning they obtain as training for skills if it neither teaches transferable skills nor contributes to the individual's educational growth (Armstrong, 2009).

Improving and maintaining workers' productivity requires continuous updating of their competencies to enable them adapt and take advantage of opportunities as they emerge. In addition, there is need to ensure that the skills developed are actually used at the workplace (Buchanan, 2006), because employers do not see the need to raise salaries for employees who have trained in skills that do not raise productivity (Cooney, 2002). However, sociopolitical

dynamics in a country affect employee participation because their employability depends not only on skills quality, but also on the economic and social dynamism and the environment in which they can be supplied and applied to the workplace (Kingombe, 2008). Thus, there is need to appreciate that the formation of skills is an aspect of the development of democracy, and the interrelationship that exist between the social capacity for learning and innovation, within the state, civil society and at the regional level (Tikly, 2003).

3.6 Summary

In this chapter a discussion of the phases of a generic organisational T&D model has been presented and discussed in the context of application to the MVRSI in Kenya. The model has been divided into three parts derived from several sources of literature: T&DNA, training activities and training evaluation. In the T&DNA phase, the needs of different organisations are analysed to determine whether a training program is necessary to address the organisational goals. Training objectives are then formulated to guide the training program. In the activities phase, decisions touching on the training content, activities, training venues, program designs, duration of training and the presenters are made; and then the training program is implemented.

In the evaluation phase a discussion was presented based on three areas: developing evaluation criteria, models of training evaluation and transfer performance. Evaluation is necessary because it indicates the level at which the training program has been able to meet its objectives, through measures such as post-training organisational performance, program, design evaluation, and attitudinal changes in learners

In the following chapter the three phases of an organisational T&D model are expanded to discuss the identified areas that this research will study. These areas have been identified based on the combined literature from Chapter 2 that analysed the vocational situation in Kenya and the T&D literature in this chapter.

CHAPTER 4   DEVELOPMENT OF AN INDUSTRY TRAINING AND DEVELOPMENT
              FRAMEWORK

4.1   Introduction

In Chapter 2 a Kenyan situational analysis was presented, touching on areas of the technical vocational education and training (TVET) program, while in Chapter 3, literature on a generic training and development (T&D) model was reviewed, based on a systematic organisational model. In this chapter, the Kenyan situation is summarised and the areas of study are presented following the three phases of an organisational T&D model: training and development needs analysis (T&DNA), training activities and training evaluation. This study then puts forward an expansion of these three phases to address areas that have been deemed important for T&D in the Kenyan motor vehicle and repair industry (MVRSI).

The first phase, T&DNA, is divided into two parts—training needs analysis (TNA) and training objectives. TNA is discussed under programs, content and priorities; timing of implementation; resources required; and expected rate of return. Training objectives are discussed under delivery of quality TVET, graduates' employability, improving consistency and management of training providers, promoting life-long learning, and enhancing status and attractiveness of TVET. The second phase, training activities, has been divided into training institutions, curriculum implementation, trainees, trainers, and sociopolitical factors. The third phase, training evaluation, is discussed under the topics of reactions, learning, behaviour and results that are modelled from the Kirkpatrick's model (Kirkpatrick, 1959). A diagram of this T&D framework can be found on page 93.

4.2   Towards a more responsive T&D framework

Literature gathered from the Government of Kenya [GoK], (2005, 2007) and United Development Programme [UNDP], (2010) clearly points to the fact that T&D programs for different industries in Kenya has not been fully effective, is out-dated and prone to discrepancies between the skills imparted and market needs. In addition, Kenya lacks uniform T&D that can be used by all TVET training institutions. Thus, there is a need to develop a training framework that would address the weaknesses identified in Chapter 2.

Figure 4.1 provides a summary of the critical areas that require addressing to develop an effective T&D framework as drawn from that of an organisational. The structure of TVET and its

management has been discussed in Chapter 2; however, the scope of this study cannot allow for studying the funding mechanisms of the program. Therefore, to collect primary data this research project will concentrate on those areas shown in the shaded boxes in Figure 4.1 because it is these areas that form the basis for understanding the complexities and functions of TVET.

| AREAS OF STUDY | PRESENT SITUATION | CRITICAL QUESTIONS |

Structure of TIVET ⟷ YPs, TTIs, NPs, Universities, NYS, ⟷ -Effectiveness? -Apprenticeship? -Transition? -Cost benefit?

Content, Curriculum and Methods ⟷ -KIE -Director of Industrial Training -Private Institution -Foreign exams -KNEC -KASNEB ⟷ -Curriculum development and implementation? -Examining bodies? -Coordination? -Antiquated curriculum - Curriculum review? -Skills requirements?

Management ⟷ -13 ministry -Local authorities -6 acts of parliament ⟷ -Too many? -Right number? -Coordinating body

Monitoring and Evaluation ⟷ -QASO's in Ministry of education One PTTO ⟷ -No. of officers required and their qualifications? -Distribution of officers? National, provincial, district? Division?

Funding ⟷ -Government Ksh 693 million in 2007 -NGOs -Banks e.g. ADB ⟷ -How much? -Sources? -Auditing? -Regulation?

New and effective TIVET model

Figure 4.1   Critical areas of study

Although the above five areas are not exhaustive, they represent the critical areas of a more responsive T&D in the TVET subsector, and which the study identified through the literature reviewed in Chapter 2 and Chapter 3.

An effective T&D for the MVRSI means different things to the diverse stakeholders. For instance, employers are interested in skills that will meet their short-term business goals (Allais 2012). This reliance on existing industry skills in place of future skill needs may lead to a lack of current labour market needs because:

> If a qualification seeks to mimic a traditional, restricted and shrinking area of labour market activity, then it will inevitably have low labour market currency and become quickly out of tune with changes in the labour market. It is the educational element, in particular the integration of the theoretical knowledge component with practice, which gives a qualification its longer-term value and which can in turn facilitate rather than impede the development of the labour process. (Clarke & Westerhuis, 2011, p. 143)

The Kenya government however views TVET as a means of transforming and empowering communities through the acquisition of requisite skills, knowledge and attitudes. The government also expect vocational education to contribute to economic development by building human capital as reflected in key government policy documents: *Economic Recovery Strategy Programme* (*ERS*) *for wealth and employment creation:* 2003-2007 (Government of Kenya [GoK] 2003a), *Kenya Educational Support Sector Programme* (KESSP) (GoK, 2005) and *Kenya Vision 2030* (GoK, 2007).

Trainees and prospective trainees also have their own interests, which may be related to different variables like age, management level and education levels. Giangreco, Sebastiano and Peccei (2009), proposed an overall trainee satisfaction with a particular program. The model relates to three key antecedents:

1. Perceived training efficiency, which refers to the perception about how well the training is organised in terms of planning, materials, equipment, venue and support offered during the training effort.
2. Perceived usefulness of training, which relates to each trainee perceptions of the utility of the program to their current job and future development.
3. Perceived trainer performance, which entails how the trainees perceive the trainer's performance in terms of knowledge, content, time management and the training process.

The study areas identified in Figure 4.1 will guide the construction of a theoretical framework for for this study. This necessitates an examination of the three phases of T&D model to understand the activities that take place therein, and which can be replicated at a macro level. The study will

then propose a more responsive industry framework.

4.3   Training and development needs analysis

Government and research papers reviewed in Chapter 2 (such as, GoK, 2003b, 2005, 2007, 2008a; Kitainge, 2003a; Wachira, Root, Bowen & Olima, 2009) revealed that in Kenya there is a discrepancy between the skills offered through TVET and the needs of the motor vehicle repair and service industry (MVRSI). Most literature blamed the poor identification of requisite skills and unsuitable methods of curriculum implementation for the failure of the program to respond to the needs of the industry. For instance, an examination of organisational, task and individual variables was discussed in Chapter 2. The literature reviewed indicated that most organisations carried out training without either a systematic TNA or specification of training objectives. Instead, the organisations copied other training programs or responded to well-advertised training programs.

To examine how an effective TNA can assist in correctly identifying an industry training program's needs, the TNA process has been divided into four thematic areas, which are discussed below.

4.3.1   Training needs analysis

In Chapter 3, four models of TNA were discussed: the organisation–task–person model, the performance analysis model, the integrative model and a model for partner institutes. While the first three models were useful in discussing the TNA model, the last model, proposed by Ridha (1998), suggested six areas (training programs and contents, training priorities, assumptions behind the choices and priorities, resources required, timing of implementation, and the expected rate of progress and returns) that were consistent with the areas that need to be addressed by the Kenyan TVET program. These six areas were used to identify four thematic areas for this study, which are discussed in the following section.

4.3.1.1 Training programs, content and priorities

The efficacy of a specific instructional technique is influenced by the content of training and learning principles identified (Alvarez, Garofano & Salas, 2004). Training should be aligned with the institutional or organisational strategic planning, while the training materials should be extracted from the professionals' experience arising from real work scenarios within organisations with the employees building on this content (Gandelman & Santoro, 2010). For example, the

European Training Foundation has a function to ensure relevant content and training materials in partner countries in an effort to strengthen the aptitude of stakeholders, identify priorities based on their partnership pacts with the European Union (EU), and assist them to develop the capacity to domestically apply appropriate EU policy programmes (Masson & Fretwell, 2009).

T&D in the MVRSI program ought to respond to the country's needs by delivering quality and flexible programs to meet the anticipated needs. In a comparative study between motor vehicle trainees from Australia and Kenya, Kitainge (2003) found that the Australian VET system heavily favours practical competences (the ability to do) and has limited support modules, whereas TVET in Kenya leans towards the sciences with less time allocated for skill practice and attainment, with the latter negating the VET intention. Training programs that are effective train not only in the technical aspects of the industry, but also offer basic literacy and interpersonal skills. These skills are discussed below.

Basic literacy skills: In an era of globalisation, basic literacy skills encompass not only the ability to read and write, but also computer literacy skills, which form an integral part of trading and communication. In Kenya, 87.4 per cent of the population (90.6 per cent males and 84.2 per cent females) can read and write simple sentences (Central Investigation Agency, 2012). However, data for computer literacy rates are not available. According to the Kenya National Bureau of Standards [KNBS], the traditional definition of literacy is "the ability to read and write simple sentences in any language", while the new definition is broader, being "the ability to identify, understand, interpret, create, communicate, and compute, using printed and written materials associated with varying contexts" (KNBS, 2011 p. 72). This new definition has necessitated the expansion of the role of TVET to include that of furnishing its graduates with appropriate literacy skills.

Technical skills: With increasing technical sophistication, an upgrade of technical skills is necessary for employees to remain relevant in their employment. Robbins et al. (2008) advance three reasons for the importance of technical training: changes in administrative structures, technological advancement and tougher occupational health and safety laws. They provide an example of a vehicle repair mechanic who has to undertake extensive ongoing training to maintain and fix the latest models of cars with computer-operated parts, keyless entry, global positioning systems, automated stabilising systems, and other related inventions. In Kenya UNDP (2010) observed that most TVET institutions used very old models of vehicle engines for their automotive practical training. Thus, the graduates are confronted with challenges at the workplace because their training is not aligned to the technological know-how present at the workplace

(Wachira et al., 2009).

Interpersonal skills: According to Munro (2007), vocational activities usually involve ethical and moral issues, which learners need to be exposed to in order to learn to make principled judgments and to align the judgments to their personal beliefs and thinking strategies. The reason for this is that almost all employees will usually work with others, and their performance will largely depend on how they relate to their peers. They need skills such as listening, good and clear communication, conflict management, problem solving and teamwork. Generic skills (which are transferable skills—vital for performance at the workplace and life in general but not necessarily industry-related) such as mathematical proficiencies, organisational skills, communication abilities, computer mastery, interpersonal capabilities, and analytical expertise, have been recommended because these competencies are not just crucial for work participation, but are also "essential for effective participation in further education and in adult life more generally" (Kitainge, 2004a, p. 6).

In addition, Roodt (2005) in a study on the determinants of growth, job creation, and entrepreneurship, identified technical know-how, determination, fortitude, communication abilities, administrative expertise, leadership talents, invention, fiscal proficiencies, and information-seeking capabilities as crucial in self-employment. Because most skills training takes place at the workplace (Wachira et al., 2009), MSE employers who do the training need to acquire the aforementioned capabilities in order to impart the best training to their employees (who are the employers of the future).

4.3.1.2 Timing of implementation

As discussed in Chapter 3, designing training programs at the organisational level involves determining the amount of time that the program will take. At the national or macro level, determining the duration of a training program involves considering the amount of content so that it can be covered over the appropriate period of time without necessarily rushing or wasting students' time. Budría and Telhado-Pereira (2009) found that the duration of training has a big impact on the chances of employment, productivity and also on the degree of skill transfer from training institution to the workplace. For example, the above authors note that an additional 100 hours of the training period under observation achieves a higher level of proficiency, because learners who spend more time in training activities have assimilated more proficiencies and skills that afterwards enable them to gain entry into specific careers and to enhance performance in their occupations. Similarly, Psacharopoulos & Patrinos (2004) reviewed literature from different

countries over a ten year period and found that there is a positive correlation between the amount of schooling time and a graduate's performance. In addition, the inability of the entrepreneurship training to be integrated to the VET system in Tanzania (located in East Africa) for example, was partly attributed to inadequate time allocated for its teaching (Nkirina, 2010).

4.3.1.3 Resources required

Justifying a training decision requires a cost–benefit analysis of the projected results of the T&D process, with the benefits expressed in quantifiable terms (Armstrong, 2009). This is in recognition of the fact that in lean economic times, training programs are among the first activities to be forfeited. It is therefore vital to link the training activity with the expected results, such as productivity, quality or better service, in order to negotiate for financial support (Wagonhurst, 2002). This was exemplified by Ridha (1998) in a study on investigating the needs of institutes in the banking sector, where he viewed TNA as:

> a collaborative effort between the training and development management team in the partner institute and various departments within member organizations, to systematically collect, diagnose and analyse pertinent information that leads to the assessment of an approximation of the actual training and development needs of member organizations (p. 20).

The examination of all T&D program needs results in a holistic approach that specifies the training phases and their component parts, and identifies perceived benefits to the individuals and the organisations. This builds a sense of stakeholders' ownership in the T&D program, which becomes an investment to be utilised during the program's implementation and also in support of new ventures.

4.3.1.4 Expected rate of return.

In different parts of the world, the objectives of T&D's programs have shifted from a focus on program-based instruction (and behavioural and task analysis), to performance-system analysis, making learning a competitive approach at the workplace (Berge, Verneil, Berge, Davis & Smith, 2002). Numerous surveys, such as Bowen, Morara and Mureithi (2009) Reynolds et al. (2002) and Walker and Redmond (2008), show that the production capacity of both employers and employees is expected to increase as a result of training. The paradox however, is that many employers shy away from developing their workers skills through training because they fear that by upgrading their skills, workers will become more marketable or become potential competitors (Cascio, 2010). Convincing employers to accept some responsibility for developing their workers' skills however, is an uphill and lengthy task for government policy makers in many parts of the

world (Buchanan, 2006; Cooney, 2002).

Despite the fact that numerous organisations devote huge financial resources to T&D programs, they fail to scrutinise how this activity can most effectively stimulate the achievement of organisational goals (Hall, 1986). Training researchers and scholars have criticised the reliance by organisations on poorly planned training processes and the failure to carry out more systematic, organisational-specific needs assessments (Stone, 2010; Taylor et al., 1998). At the industry level, the concern is not only on productivity of individual businesses, but also that of a large number of firms constituting that particular industry. Psacharopoulos and Patrinos (2004) observed that governments and other agencies are increasingly funding research on returns to education to guide macro-policy training decisions and financing of education reforms. The authors cite the cases of United Kingdom's higher education as well as the Australian higher education financing reforms. In other instances, they reveal that the rate of return studies are being used innovatively to set overall policy guidelines as well as evaluating specific T&D programs such as: the Indonesian school building, India's blackboard project and Ethiopia's major sector investment programs.

4.3.2   Training objectives

In the *National TVET Strategy*, the Kenyan government has identified important areas that TVET objectives are expected to address, such as: how many learners should take the course in a given year, how often the curriculum should be revised, and program funding. In addition, other extraneous factors, such as global dynamism, technological evolutions and developing trainers' teaching capacity, are expected to be addressed in the training program (GoK, 2008c). This calls for more scientific identification of T&D needs and expansion of TVET's training objectives to encompass endogenous and other emerging needs.

In formulating the objectives for a national T&D program, laws governing the training activity, such as the *Labour Institutions Act*, which regulates the establishment of skill training institutions; the *Work Injury Benefits Act* which deals with work injury compensation and occupational illnesses; the *Labour Relations Act* which deals with registration, regulation, management of trade unions; the *Occupational Health and Safety Act*, which regulates safety, health and welfare of employees need to be considered (Nyerere, 2010). Other policies require considerable modifications in their application. For example, the enhancement of quality guidance and counselling, the elimination of sexual abuse in training institutions, the development of better options by governments (who have educational structures pegged largely either on national

assessments or quotas), and providing motivations for people to enrol in and complete non-traditional courses (Rodgers & Boyer, 2006).

The African Union (AU) (2007) recommends that VET national objectives in member countries be grouped into five specific areas that should be addressed by the syllabi: delivery of quality TVET, graduates' employability, improvement of consistency and management by training providers, promotion of life-long learning, and enhancing the status and attraction of vocational education. According to the situational analysis provided in Chapter 2, the five areas were found to be most pertinent to the needs of T&D in the MVRSI in Kenya and were adopted as study areas for this thesis. These five areas are discussed in more detail in the following section.

4.3.2.1 Delivery of quality TVET

Skills acquisition, such as basic literacy and technical and interpersonal aptitudes, is one of the major focuses for T&D. Skills are important for the workplace, but the ability to move away from being just task-focused and skill-based to broader competencies is also essential, as skills that are acquired in the present may not suffice in the future (Munro, 2007; Wheelahan & Carter, 2001). Formal education has a direct impact on the occupational success and upward mobility of individuals within the industry because, although education per se does not make one a successful worker, those with literacy and numeracy skills perform better than those without these skills (Bowen et al., 2009; Wallenborn, 2010). In West Africa, for example, some trainers prefer to take on trainees with a secondary school attainment because measuring; drawing and cutting are consequently easier for them to master (Afeti, 2006; Williams, 1980).

Moreover, VET contributions to successful improvement of labour capital combine specific technical and generic skills requisite for optimum productivity and development of the economy. This is because VET is not only a method of skills training, but also a means of efficiently transmitting capabilities in a framework of employability, productivity, and sustainable growth (Wallenborn, 2010). Thus, to develop receptive training programmes, curriculum designers, researchers and training providers need to appreciate the interface between schooling and training (Budría & Telhado-Pereira, 2009).

As discussed in section 4.3.1.2, while employers stress the importance of occupational skills they also demand other skills which enable an employee to perform tasks efficiently, confidently, and to have positive relationships with the employer and other workers. Some of these skills were identified by UNDP (2010) and are indicated in Table 4.1 below.

Table 4.1   **Category of skills**

Occupational skills	Employable skills	Interpersonal and empowerment skills
• Using equipment safely and effectively • Observing quality control instructions • Increasing productivity • Understanding drawings and sketches Selecting and using materials and tools • Reducing waste on costs	• Language skills (oral and written) • IT and computer literacy • Communication skills • Influencing and persuading others • Life-long learning skills	• Teamwork • Flexibility and adaptability • Creativity and innovation • Problem-solving and decision-making • Managing change

Source: UNDP (2010)

Industry training providers need to recognise the role the internet has played in transforming the world into a global village. The perceived aim of VET institutions has moved from not only socialising learners into knowledge appreciated by the community, but also to enabling learners' participation in their own cultural transformation and adjusting to imminent changes that their societies will experience (Munro, 2007). Consequently, education and training policy-makers, curriculum designers, education providers and instructors increasingly need to develop curriculum, content and methods of instruction that are more relevant to the needs of the students and the industry at large. This could be done by simulating current workplaces, or through the use of computer databases and websites to process and manipulate training activities. Although this kind of project would require massive investments in equipment, in the long run it would enable trainees to access more diverse training. For instance, universities such as Kenyatta and Nairobi universities have invested in virtual labs, enabling their students to access learning from other parts of the world (GoK, 2008b).

4.3.2.2 Graduates' employability

The development, employability and efficiency of the workers require current work-related competencies instead of the more general academic qualifications (Wallenborn, 2010). Further VET, focusing on human capital advances, job relatedness and performance outcomes, is stimulated by VET structures that depend on precise definition of economic environments (Mccoshan, 2008). The crucial issue is the relationship between training investment aimed at the

development of human labour and an increase in social and economic development. Studies in training and employability show that VET increases the accessibility of skilled employment for job-market entrants (Shavit & Müller, 2000). In nations with poorly regulated VET systems, graduates take longer to find employment and encounter more uncertainty than their colleagues in countries with standardised vocational structures (Dieckhoff, 2008). Further, because the aim of VET is to gain entry into the labour market, learner's choices of vocational courses ought to mirror those they make about their eventual workplaces (Rodgers & Boyer, 2006).

4.3.2.3 Improvement of consistency and management by training providers

To develop a successful training policy, there is a need for governments to establish a skills inventory that identifies the national skills shortages through considering the available skills, the anticipated skill needs, current and future labour demands, technology, economic factors and the internal and external competition (Wagonhurst, 2002). Authors such as Tikly et al (2003), King and McGrath (2003) have advanced that an important component of a knowledge society is the extent to which 'skills development strategies' are linked to education, training research, curriculum development and the broader development aims. Such strategies would require setting up inter-government structures to easy communication between stakeholders and to develop a supportive legal and regulative framework (Robertson et al., 2003)

A well-articulated skills inventory will eliminate haphazard and unnecessary programmes, resulting in more productivity and better cost-benefits for the country. When a country ignores technological advances, global trends and the aspirations of its people, a mismatch between the skills produced and the market demand will always persist (Kitainge, 2003b; Stone, 2010; UNDP, 2010).

In Chapter 2, literature revealed that TVET was managed by twelve ministries, had multiple and uncoordinated providers and was examined by a variety of bodies. In addition, there lacked a TVET coordinating body and a national certification qualification network to harmonise the activities of this sector. This study suggests that improving the consistency and management of training providers will have a positive impact on the development of a more responsive T&D program. Further, employers and employees need to continually upgrade their skills to remain relevant in their careers, as discussed below.

4.3.2.4 Promotion of life-long learning

Life-long learning describes a continuous education inclination that is either formal or informal, and which engages people in multiple learning opportunities that are intentional, voluntary, and guided by a more learned person (Arrington & Lowe, 2008). The continual scientific and technological inventions and global dynamics have had a great effect on training and learning needs and instruction styles over the years (Life-long learning, 2009). Some of today's learning does not need an institution, a specific learning style or a time-frame. In addition, acquired knowledge should not be confined to a specific workplace, but can be applied and developed for multiple workplaces.

Today's worker may choose advanced educational opportunities for reasons such as economic competition, vocational and personal growth, professional development and job enrichment (Arrington & Lowe, 2008). The changing focus of life-long learning, calls for TVET training providers to position themselves to take advantage of a population that requires continuous training outside the normal institution schedules. This will enhance accessibility by trainees who would otherwise not enrol in training programs, and improve the image of the country's T&D program.

4.3.2.5 Enhancing the status and attraction of VET

The factors described in the last four sections—delivering of quality TVET, graduates' employability, improving consistency and management of training providers, and promoting life-long learning—have an immense impact on stakeholders' perceptions of the TVET program. In addition, introducing vocational education to the school system is an appropriate way of enhancing its status. However, the failure of VET to satisfy the needs of the industry is usually blamed on the quality and competency of teachers. Added to this is the view that vocational education is too involved, too broad and too time consuming to be taught during normal school hours. Dalton and Smith (2004) observed that a teacher's interest in creating a workplace relationship is hindered by a high workload and other restrictions—such as the wider curriculum demands, uncertainty caused by continuous change, organisational strains, finance issues and the attitude of vocational education as an 'add-on'—instead of forming a fundamental part of the school syllabus.

In 2003 the Kenya government acknowledged that a majority of the instructors at the YPs had low academic levels and had not received training in pedagogy, despite their role in imparting skills

(GoK, 2003b). In addition the UNDP observed that whereas most of the trainers in TTI's and TI's had acquired professional teacher training positions, their qualifications were of a technical diploma level—yet they were expected to teach to the same level (UNDP, 2010). The KIE further added that the capacity of trainers to conduct research was too low to keep themselves abreast of new technologies (KIE, 2006).

Assessing training needs in a country enables the planners to set targets that guide a responsive T&D program. The objectives derived from the results of the TNA need to be aligned to the goals of that particular country—be they social, economic or political. The set objectives are then used to inform the second phase of a T&D, which implements the curriculum different types of learning. The next section details the training activities phase.

4.4   Training and development activities

The training and development assessment phase of T&D, discussed in section 4.3 above, serves as a foundation for the entire training program through analysing the training needs and specifying training objectives. The aim of this second phase—the activity phase—is to design a suitable environment to achieve the specified training objectives by carefully choosing methods and techniques and delivering the training systematically in a supportive and encouraging way (Cascio, 2010).

From the reviewed literature in Chapter 2 and the examination of the organisational T&D, this study identified for discussion five major areas that impact training activities: training institutions (types, locations and the quality of their equipment); curriculum implementation (content and methods used in training); quality of trainers (their training and in-servicing); types of trainees (choices and quality of graduates); and sociopolitical factors. An observed gap in any of these five areas, which are discussed in more detail in the following sections, would result in a negative impact for T&D in Kenya.

4.4.1   Training institutions

To ensure their role is appreciated, and for their own competencies, training institutions need to establish a relationship with the industries so as to increase their understanding of the generic skills in the workplace and to include them in the preparation and delivery of the T&D programs (Dalton & Smith, 2004; Kitainge, 2003b). The vehicle industry is very dynamic in terms of the evolvement of vehicle models, which come with new and challenging technological concepts and require continuous training to upgrade the skills requisite for the industry. This could be done by

building the capacity of instructors through refresher courses, work experiences and workplace simulation. As will be discussed in Section 6.4.1, some institutions in Kenya have initiated linkages with the industry in an effort to equip both trainers and trainees with current industrial skills and technology.

Training for the motor vehicle mechanics involves imparting practical and technical skills to enable the efficient and effective use of tools to perform everyday tasks such as braking system repair, upgrading transmission systems and establishing issues related to the overhaul of vehicles (Barber, 2003). Other new technologies include programmed transmission, computerised systems, ignition charging, cruise regulation, air conditioning and vehicle air bags, automatic braking systems, automatic locking and electronically controlled windows (Kitainge, 2003a). Thus, training institutions need to continually update their simulated work environments to meet the industrial demands—a very expensive venture. However, although training to upgrade skills involves a short-term cost, the long-term benefits are much greater for the business and are critical to remaining competitive (Brown, 2003). As indicated in subsection 4.3.1.1, in Kenya it has been found that learners in the area of auto-mechanics are trained using old engine models, rendering the trainees incompetent when handling more sophisticated, modern motor vehicles found at the workplace (UNDP, 2010).

Advocates of informal training of skills, such as Barber (2003) and Reynolds et al. (2002), argue that although a simulated workplace setting such as a training institution may be adequate to train requisite skills, the process of 'learning by doing' may yield similar, or even better, results if well carried out. Furthermore, Kitainge (2009) advanced that, notwithstanding the similarities in the learning and work environment, there is likely to be little transfer of learning from institution to the workplace. This is because the workplaces present changes in the context of modern technology that require more skills and innovation than the institutions train for. However, Wagonhurst (2002) acknowledges that prior knowledge acquired at the institution helps graduates to internalise the real job requirements needed to perform to the expected level of expertise. In a related study on skill acquisition at the workplace, Barber (2003) observed three major types of applied skills attainment:

- Repetitive learning procedures—where first a skill was demonstrated, and then the trainees repeated it until they were capable of applying it.

- Technical rationality—where the mechanic faced with a problem was expected to reflect on their understanding of mechanical theory and find a solution to the problem.

- Problem defining—where a mechanic confronted with a problem, such as a car that would not start, is expected to choose or define the problem from a variety of possible causes.

The clamour for workers with such skills as those mentioned above has placed a big burden on educational institutions, especially in developing countries (Kitainge, 2003a, 2004b).

4.4.2 Curriculum implementation

Once the type of training, the training institutions and training venues have been identified, the next step is curriculum implementation, which transforms the curriculum objectives and designs into skills needed to boost the industry through the transfer of skills and competencies from the trainers to the trainees. This involves the competent use of training methods (either formal or informal) based on sound learning principles, with the aim of furnishing the trainees with three types of skill necessary for an all-round worker: basic literacy, technical and interpersonal skills.

Studies suggest there is a higher likelihood of real learning during a training activity if the trainers increasingly make use of both their sensory and intellectual capabilities in the learning process instead of using a single faculty (Wagonhurst, 2002). Thus, trainers should make use of activities that call for participants' proactive involvement in the learning process in group discussion, or individually, to enhance the learning process. For example, to train performance appraisal systems, an approach involving the acquisition of both abstract and analytical skills necessary for developing strong theories and prototypes would be required (Khasawner, Olimat, Qablan, & Abu-Tineh, 2008).

4.4.3 Trainees

The implementation of a T&D, prospective trainees need to be identified carefully, as their input has the greatest impact on the T&D. In assessing the determinants of employment, Budría and Telhado-Pereira (2009) modelled the likelihood of accessing employment at diverse periods as a function of a prospective employee's personal traits such as sex, age and academic level—and the quality of the training program. The researchers found that the individual's age does not have a significant effect on the employment prospects in the first year, but after two years they found that the ratio of older people and that of younger people still employed was 3:5. The authors explained that older individuals are more likely to get jobs that are unstable, or they are able to live without employment for longer durations of time. Women were found to be more susceptible to unemployment after graduating, irrespective of the time-horizon considered.

In the labour market, Maliranta, Nurmi and Virtanen (2010) found that male graduates have a 4.7 per cent more likelihood of obtaining a job than female graduates, who opted to further their studies—perhaps with the hope that higher qualifications would yield better results. Women in many traditional African societies face increasing difficulties in starting and running their own enterprises because women are not able to own anything (Onsomu, Wambugu, & Wamalwa, 2009); in fact, a wife is owned by the husband, making it very difficult for her to make independent decisions. Coupled with this is the difference in earnings in self-employment between males and females. Rosti and Chelli (2009, p. 527) illustrate the consequences of this discrepancy: "since earnings in self-employment are related to entrepreneurial ability, and since survival in self-employment is related to earnings, self-employed female graduates will have lower survival rates than self-employed male graduates". And further, the wage gap between males and females in employment has a negative effect on the chances of entrepreneurship among female graduates. This is despite the fact that the effect of training on improved work performance is remarkably higher among females—an outcome that can be deduced as proof that women are inclined to acquire a superior match between the workplace needs and the competencies learnt (Budría & Telhado-Pereira, 2009).

T&D designers have the duty of communicating industrial dynamics to their stakeholders and to look for ways of addressing the challenges, such as those identified above. This may involve revising the educational objectives and redesigning training activities.

4.4.4   Trainers

The role of vocational trainers in curriculum implementation and delivery cannot be overemphasised. Korthagen, Hoekstra, Brekelmana, Beljaard and Imants (2009) advised that the instructors' capabilities, knowledge and expertise must be prudently scrutinised, stated and communicated for the importance of the trainers' role to be more appropriately acknowledged and understood in the vocation. In addition, Khasawneh et al. (2008) recommended that vocational teachers should adhere to established standards of teaching quality, develop competency records for their students during their program of study, and use technology tools to improve their instruction and, ultimately, the learning of the students.

VET trainers are expected to be: firstly, experts in their profession (e.g. plumbing, business or design), and secondly, instructors in their discipline (Robertson, 2008). They are expected to have practised their vocation for a number of years to gain industrial experience prior to becoming teachers and instructors. Thus, it is expected that their knowledge base is strong and wide. The

demand for better performance calls for more resourceful ways in identification and recruitment of trainers, evaluation of the training programs, and appropriate teaching methods for the teaching staff (Berge et al., 2002). This is because vocational training instructors emanate from numerous subject and vocational backgrounds and practices, which necessitates diverse initial qualifications and experience (Noel, 2006). Training of trainers should therefore engage in outlining strategic objectives and studying organisational practices with the aim of providing requisite teaching for improved performance. For instance, the introduction of competence-based teaching in VET program in Australia necessitated a change in the teaching methods because the new program had units that were easily accessible to students, which took away the hitherto teachers' power in trainer-trainee relationships (E. Smith, 2005).

A teacher's style of delivery, their interest in the subject and their ability or willingness to update his or her competency impacts largely on the quality of learning. Every teacher has a preferred learning style and, as P. Smith (2006) observes, students who have different learning styles from their teachers should not be seen as poor learners, but learners with a different approach. There is a great danger if the teacher fails to recognise personal differences in individual learners, since a student might be labelled weak, less motivated, or unable to learn due to a variation in the learning style (Rosenfeld & Rosenfeld, 2004). Pragmatic teachers therefore have developed ways of establishing the individual learners' learning preferences, which include observation, theoretical formation and informal, realistic hypothesis testing. Since members of staff are the backbone of an organisation, they need continuous training to not only polish their existing skills but also to learn new ones based on the dynamics of the industry (Hinton, 2004).

In a study on learning transfer, Donovan and Darcy (2011) found that the factor with the highest mean rated by the respondents was trainer effectiveness. The factor consisted of five items: preparation, enthusiasm, commitment, relating the training content to the job needs and good feedback. Self-worth and work participation have a highly positive influence on effective training, and trainers that make use of methods that focus on the learners' sense of self-worth, while emphasising the occupational and professional benefits of training, have a higher success rate than those who don't make use of them (Colquitt, LePine & Noe, 2000).

In an industry T&D program, the identification, recruitment and training of the VET trainers in pedagogy is vital to realising good outcomes. Imparting skills should not be left unregulated because poor work methods in trainers are likely to be replicated by the trainees, with disastrous results. Trainers' pedagogical engagement in constructive and critical focus is necessary to not only improve the status of VET, but also to produce graduates with innovative and analytical

abilities. E. Smith (2010) argues that reduced requirements for degree-level qualification for Australian VET trainers has made them increasingly 'de-skilled', because of a singular focus on compliance with national VET audit frameworks. The author advocates for a pedagogical paradigm to include added underpinning knowledge, increased quest for innovation, and the ability to analyse, construct and criticise issues.

The UNDP (2010) indicated that YP trainers and MSE employers who also trained at the workplaces did not have pedagogy skills, which compromised the quality of the technical skills attained. To develop a more responsive T&D framework, this study viewed comprehensive examination of the contribution of VET trainers to job-related skills as a vital part of addressing skills demands of the MVRSI industry.

4.4.5   Sociopolitical factors

Studies on the impact of the training outcomes have suggested that the learners' social, economic and political backgrounds have a large influence on their training outcomes. Fretwell (2003) observed that "if the clientele of a training programme is highly disadvantaged or residing in an area of high unemployment, the impact of training will be less, hence poor employment of graduates may not necessarily mean that the training was of a poor quality" (p. 187). On his part, Polesal (2010) concluded that the heavy use of VET by learners from disadvantaged backgrounds in Australia raises concerns about social selection, and could lead to low self-esteem in trainees and low quality of skills. Further, the support offered to the trainees and the climate in which they learn is dictated by situational physiognomies such as declarative knowledge, learning incentives, acquisition of skills, reactions, transfer and job performance (Colquitt et al., 2000).

Governments have a duty to ensure that VET is accessible to all classes of people if the skill gaps are to be filled. According to Wallenborn (2010), VET should be a comprehensible part of the education structure, which calls for systematic interventions that will ensure that the youth and adults from disadvantaged backgrounds take advantage of particular programmes that lead to employment as specialists or workers. One indicator of the productivity of education is the rate of returns to schooling that can be harnessed to serve as an incentive for individuals to invest in their own human capital (Psacharopoulos & Patrinos, 2004). This evidence can be used by public policy makers in the design of policies, and in crafting incentives that promote investment and guarantee that low-income families find those investments appealing.

Literature gathered and presented in Chapter 2 revealed that most TVET institutions in Kenya are public, are managed by twelve ministries, are examined by multiple examination bodies, are

located in the high economic potential areas of the country and are governed by boards that comprise political appointees. The issues and challenges require a political, as well as a social, solution. The reason being that it is generally acknowledged that education alone cannot deliver the many benefits associated with training—there is a need to create an enabling environment in other sectors of the economy to realise investments in education (King, 2007). This study, therefore, deemed it fit to include sociopolitical factors that impact on TVET as part of a more comprehensive study of the program, and the development of a T&D framework.

4.5   Evaluating the training outcomes

There are three basic reasons for evaluating a training program: to find out how to improve the program, to determine the viability of the program, and to justify the existence of the training program to providers (Kirkpatrick & Kirkpatrick, 2005). A sound evaluation system enquires into the feasibility of the training system and assesses the overall impact. Fretwell (2003) observes that the results of the evaluation are vital in informing the public decision-making and stimulating debate, improving employer decisions about the training, informing the clients about training options and quality, and improving the quality of the training systems. The author adds that evaluation helps to avoid the possibility of wasting valuable resources by selecting optimum options, continuing with plans that are likely to produce intended results and detecting factors that may negatively impact on the training strategy. These options are best informed through a comprehensive TNA and the subsequent formulation of training objectives.

According to Budría and Pereira (2009, p.55), post-training feedback and follow-up of participants should form a crucial activity to positively transform countries and training institutions—after all if we sought to know whether or not the training exercise helps participants learn skills and concepts that are applicable to the workplace or improve their employability, the most evident way is to ask them.

Feedback gathered through tracer studies of TVET graduates is an effective way to gauge the efficacy of the program. The tracer studies would gather data on the percentage of graduates who gain employment, how well the skills acquired are utilised at the workplace and areas that would need to be improved to make the program more appropriate. Further, program evaluation will point out areas that have been successful, those that require revision, and priority areas of future programs. In this study, the Kirkpatrick's four levels of evaluation will guide the third part of the T&D process—the evaluation phase, which is discussed in the following section.

4.5.1   Reactions

At this level of evaluation, trainees react to the program through completing a post-course evaluation of their opinions of the training. The reactions level therefore measures the participants' interest, motivation, and attention levels (Smidt, Balandin, Sigafoos & Reed, 2009). This level is important for the future of the program because the motivation to learn, and changes in behaviour, are greatly influenced by the participants' positive reactions (Kirkpatrick & Kirkpatrick, 2005).

In the development of a T&D model, reactions to TVET were deemed important because it is the opinions and the impressions that the graduates voice that either encourage or discourage potential trainees. Furthermore, the motivation to learn is dependent upon how the trainees perceive the training program. The AU (2010) observed that VET in Africa is viewed as a pathway for those students who have low academic potential—making it an unattractive choice. The literature reviewed in Chapter 2 indicated that in Kenya TVET has been gauged as inconsistent and inflexible and produces incongruent skills in comparison to the skill needs of the industry. This has led to a negative perception of the program because the public views it as wasteful in terms of resources and opportunities.

4.5.2   Learning

Evaluation at the learning level seeks to obtain information on the extent to which learning objectives have been attained, knowledge acquired, skills developed or improved, and attitude changed to desired levels (Armstrong, 2009; Kirkpatrick & Kirkpatrick, 2005). Learning involves evaluating what the trainees have learned in terms of knowledge, skills and attitudes, which can be measured using written or practical assessments and role-playing, with the aim of allowing learners to demonstrate their understanding of what has been learnt (Smidt et al., 2009).

In Chapter 2, it was revealed that there were numerous examination providers, such as the Kenya National Examination Council (KNEC), the Kenya Accountants and Secretaries Examination Board (KASNEB), City and Guild, The Directorate of Industrial Training (DIT) and many other foreign bodies. Despite these numerous examination bodies, there lacks an examination national qualifications framework that would standardise the certificates, thus making the learning level difficult to measure in Kenya.

4.5.3   Behaviour

Evaluation at this level measures the ability of the trainees to use their newly acquired knowledge or competencies at the workplace (Smidt et al., 2009). Kirkpatrick and Kirkpatrick (2005) observed that most organisations bypassed reactions and learning levels to measure behaviour. They noted that this was a serious mistake because failure to transfer skills and knowledge may be due to other exogenous factors of the training, which can be traced by measuring reactions and learning. Consequently, the authors identified four conditions necessary for changes in behaviour (Kirkpatrick & Kirkpatrick, 2005, p. 23):

1) The person must have a desire to change.
2) The person must know what to do and how to do it.
3) The person must work in the right climate.
4) The person must be rewarded for changing.

To rule out rival explanations of behaviour changes, it is essential to design behavioural evaluation criteria to be used before and after training (Cascio, 2010). This is a difficult activity that would require an expert to set a behaviour measurement procedure, or alternatively to use a control group.

In VET training, the level of technology in the institutions in comparison to that found in the industry has a big effect on the transfer of skills. Kitainge (2003) found that Australian VET graduates were more prepared for the workplace than their Kenyan counterparts due to the high level of sophisticated equipment found at the Australian training institutions compared to the Kenyan training facilities. Subsequently, the Kenyan graduates required more workplace training compared to those trained in Australian facilities. It is for this reason that Munro (2007) observed:

> ... that individuals need a range of competencies that allow them to deal with and manipulate growing amounts of increasingly diverse information, use their knowledge selectively and strategically, cope with increasingly rapid change, take greater responsibility for their own learning and direction and think more laterally at the workplace (p.77).

Two dimensions to training performance and transferability were proposed by Kraiger (2002): proceduralisation (ability to mimic modelled behaviour from the training to the job), and compilation (fluid performance with few errors after continued practice). Further, Baldwin and Ford (1988) identified three domains that affect the transfer of learned skills to the workplace:

- trainee characteristics, which include individual elements such as ability, personality and

motivation

- training design, which refers to the relationship between the activities engaged in on the training program and the actual job requirements of the trainee and work environment
- work environment, which is concerned with the degree to which the trainee has the opportunity to use and practice what has been imparted.

Individuals will confidently apply learning to the workplace if they do not find it too difficult, if they believe that the training is pertinent, valuable and applicable, if they are encouraged by the supervisors, have self-efficacy, and are dedicated and devoted to their work (Armstrong, 2009). Curriculum designs that adhere to the needs of both students and society, ensure that students graduate with a state-of-the-art attitude and experience which can be used at the workplace (Khasawner et al., 2008). Moreover, VET students should be technology-literate in relation to their profession to be able to compete locally, regionally and globally.

4.5.4   Results

Evaluation at the results level measures the overall financial expenditure impact, production increase, reduced turnover and morale impacts (Kirkpatrick & Kirkpatrick, 2005; Smidt et al., 2009). In a formal training structure, results criteria in education include a wide variety of results, such as graduates' employment and increased workplace productivity, service to marginalised groups, social inclusion, improving literacy, personal and family economic stability, and responsible social conscience (Praslova, 2010).

When evaluation is well done and communicated to the stakeholders, there are potential positive impacts to improve VET policies and programmes. This opinion is supported by Stone (2010) who argues that training can only be described as effective if its benefits to an organisation's performance and profit-impact are visible—that is, if the intended outcome is compared to the actual achievement and found to have been attained.

The three parts of a T&D model described in detail above, (i.e. T&DNA, training activities and training evaluation), form the main parts of a T&D framework, which is conceptualised in the section below.

4.6   Conceptual framework of research

The aim of this study is to develop a T&D model of TVET in Kenya for the MVRSI. This will involve the examination of the contribution of TVET to job-related skills and competencies in the

MVRSI in the Kenyan MSE. To comprehend the effects of an effective training program, literature was reviewed and presented in two chapters.

Chapter 2 presented a situational analysis of Kenya by examining various aspects of the country such as demography, geography, and vocational education programs. It was established that in Kenya, TVET was expected to have two broad functions: firstly, to offer training prospects and occupation growth for school graduates; and secondly, to provide experienced labour for the country's economy. There are five levels in the structure of TVET: artisan, craft, diploma, technician, technologist and master technologist. The training program is managed by twelve ministries and numerous local governments; examinations are also offered by many local and international bodies, funding is considered low and a majority of TVET graduates are employed in the MSE spread all over the country.

In Chapter 3, an organisational T&D model was analysed, based on the three acknowledged phases: T&DNA, training activities and training evaluations, which are summarised below.

Training and development needs assessment: This phase was discussed under four specific areas: training needs analysis (TNA); models of training needs analysis; individual, task and organisational variables; and training objectives. Four models were reviewed: the organisation-task-person (OTP) model, the performance analysis model, the integrative model and a model for banking institutes.

Training activities: This phase was discussed under two areas: designing the training programs and implementing the programs.

Evaluation: This phase was discussed under three areas: developing an evaluation criterion, models of training evaluation and, the transfer performance. Four different models for measuring the success of training programs were reviewed and presented in Chapter 3.

In this chapter, the Kenyan situation has been summarised and areas of study that were deemed important from literature in Chapter 2 have been presented. Based on the literature from an organisational T&D model discussed in Chapter 3 and the situational analysis of vocational training in Kenya, this study proposed an industry T&D framework for the MVRSI, which is presented in Figure 4.2.

```
                    TRAINING AND DEVELOPMENT

        Training and              Training            Training
     development needs            activities         evaluation
        assessment

  Training needs             Curriculum              Reactions
  analysis                   implementation

        Programs, content and     Training           Learning
        priorities                institutions

        Timing of                 Trainers           Behaviour
        implementation

        Resources required        Trainees           Results

        Expected rate of return   Socio-political
                                  factors            Re-assess

  Training
  Objectives

        Delivering quality TIVET

        Graduates' employability

        Improving consistency and
        management of training
        providers

        Promoting lifelong learning

        Enhancing status and
        attractiveness of TIVET
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Figure 4.2: Training and development model for TVET

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4.6.1   Stakeholders

In Chapter 2, the TVET stakeholders were identified as businesses, training institutions, ministries, local governments, examination bodies, book publishers, trainees, donor agencies and numerous other organisations that support training (such as teachers' unions and parents' associations). Literature also revealed that most of the skills' training for the MSE was provided informally at the worksites through traineeships.

While all the stakeholders are important for realising desired outcomes for the TVET program, this study acknowledges that it is does not have the scope to gather data from all stakeholders. Therefore, five groups of stakeholders that were deemed most relevant for this study were identified. These were: MSE employers, MSE employees, trainers, trainees and education officers; these are presented in Figure 4.3.
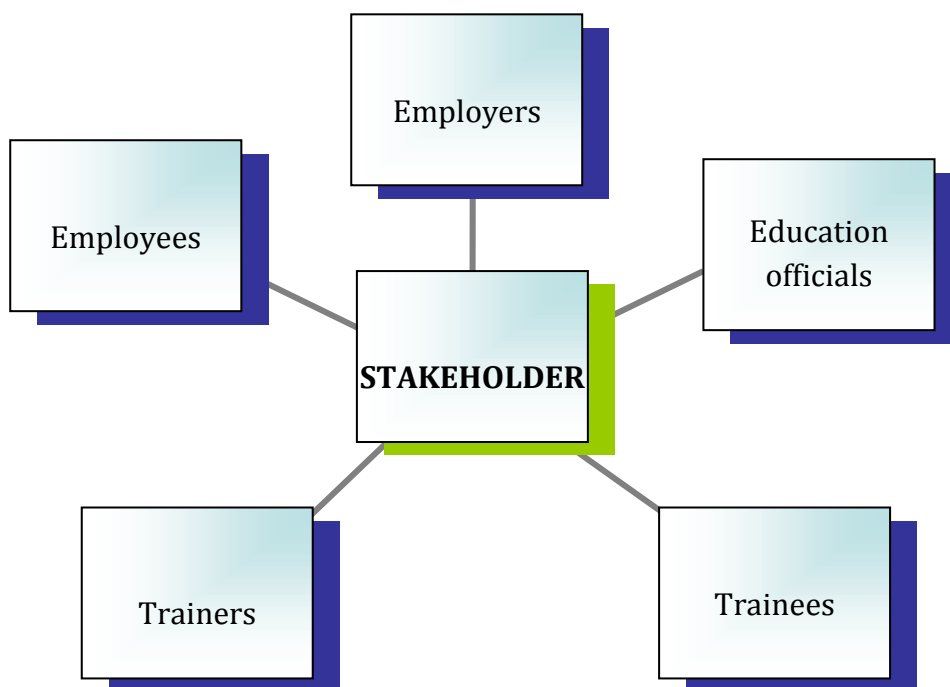
Figure 4.3: Study respondents

4.7   Summary

In this chapter, the Kenyan situation has been summarised, delineating areas deemed critical for this study. Then the organisational T&D model that was discussed in Chapter 3 has been

expanded to include areas that were identified for study. These areas have been discussed and the reasons for including them in a more responsive T&D framework have been advanced and presented graphically in Figure 4.2.

Based on the Kenyan situational analysis that is presented in Chapter 2, and the literature on an organisational T&D model presented in Chapter 3, a conceptual framework for this study has been suggested in Section 4.6. Stakeholders who will take part in this research study have been identified as MSE employers, MSE employees, trainers, trainees and stakeholders. The next chapter presents a methodological approach to studying the areas identified in the conceptual framework.

CHAPTER 5   METHODOLOGY, METHODS AND ANALYSIS

5.1   Introduction

In this chapter is a description of the methodology, data collection methods and data analysis that were used to gather and analyse the perceptions of the MVRSI stakeholders. The research design is explained, starting with a discussion of the study's problem identification, which has been derived from the Kenyan situational analysis and the literature review presented in earlier chapters. This is followed by a discussion of data collection methods and, data analysis. This chapter concludes by presenting measures of consistency (i.e. validity and reliability) and discussing ethical issues in research.

5.2   Problem identification

The literature review provides an important ingredient for establishing foundational elements, such as what has already been discovered about the topic, plus the ways and means of previous research. Myers (2009) observes that a literature review provides the context for a research topic, builds on previous research, and includes the researcher's critical and analytical judgment. In addition, it describes what is considered to be known about the research topic and what is considered unknown (Dul & Hak, 2008). For this study, an extensive review of government papers (GoK, 1999, 2002, 2003a, 2005, 2007, 2008a; UNDP, 2010), research papers such as those by Kitainge (2004a & 2004b) and Wachira et al. (2009), and social media such as newspapers and blogs indicated that there was a gap between the training offered and the industrial needs.

It has been noted that to be successful in study, and to enjoy its process, the researcher should choose a research topic that he or she is genuinely interested in (Daymon & Holloway, 2002).The topic for this research was chosen because the researcher takes a keen interest in TVET, and has worked as a trainer, an assessor and a supervisor in TVET training institutions in Kenya. The topic is also pertinent in a broader sense because countries all over the world grapple with the challenge of establishing and maintaining appropriate vocational training (Budría & Telhado-Pereira, 2009; UNESCO-UNEVOC, 2008; Wallenborn, 2010).

Based on the literature review, which includes a situational analysis of Kenya and the examination of an organisational T&D model, the research problem was identified as the lack of a functional training model for TVET. To deal with this problem, a training framework for TVET was proposed and presented in Chapter 4. This framework was used to analyse pertinent data collected from stakeholders sampled from those identified in Chapter 2.

To gather data from the identified respondents an overarching question—RQ, which is divided into four subsidiary questions. The two questions are presented below.

RQ *From the perspective of key stakeholders, how relevant are the skills and knowledge of TVET graduates to the needs of the micro and small enterprises in the MVRSI in Kenya?*

> **RQ (i)** What types of skills do the micro and small enterprises in the MVRSI require?
>
> **RQ (ii)** What types of skills are presently being offered through TVET for the micro and small enterprises in the MVRSI in Kenya?
>
> **RQ (iii)** Are there gaps that exist between the skills developed and the needs of the industry?
>
> **RQ (iv)** If there are gaps, how does the industry address them?

In the following section, the procedure followed to address the four subsidiary questions of **RQ** is articulated by detailing the data sources and the reasons for choosing them.

5.2.2. Subsidiary questions

In this section is a discussion of the subsidiary questions that guide this research.

> **RQ (i)** What types of skills do the micro and small enterprises in the MVRSI require?

To address this question secondary data was gathered through perusing government documents and research papers related to TVET for the MVRSI, and then collecting primary data from 19 MSE. Literature was reviewed from government documents and research articles. In addition, data from industries were collected from the Kenya Association of Manufacturers (KAM) and the Kenya Private Sector Alliance (KEPSA) websites, which provided information on the skills and level required for the MVRSI.

> **RQ (ii)** What types of skills are presently being offered through TVET for the micro and small enterprises in the MVRSI in Kenya?

Data to address this question were collected through examining secondary data relating to demographics, exam performance, teacher qualifications and enrolment trends from the four institutions under study. Interviews were conducted with two trainers from each institution, focus group (FG) discussions were conducted for the trainees, and observations were made of the institutional set-up and training facilities. Interviews were also conducted with four education officers who gave their perspectives on the curriculum and the dynamics of the training program in the country.

RQ (iii)   Are there gaps that exist between the skills developed and the needs of the industry?

This question was addressed by gathering data from all the stakeholders identified in the first two questions, among them the MSE, the institutions—both trainers and trainees—and the government bodies that deal with TVET. The data collected formed part of the stakeholders' evaluation of the TVET program. Questions that were asked here related to the efficacy of the skills training in meeting the industry's labour needs.

RQ (iv)   If there are gaps, how does the industry address them?

The intention of this question was to gather data on how the MVRSI MSE in Kenya deal with inadequate skills training. The information was collected from secondary data and interviews with employers and their workers. Questions posed here sought to discover issues to do with recruitment, induction, orientation and any deficiencies that may be corrected by retraining.

5.2.3   Sample

For this thesis, data were gathered by the researcher from five stakeholders: trainers, trainees, MSE employers, MSE employees, and education officers who are responsible for curriculum design, implementation and supervision. These five groups are at the core of TVET, in terms of training and consumption of skills and knowledge, making them best placed to give the most appropriate feedback. Secondary data was also collected from the websites of the following regulatory bodies: the Kenya Chamber of Commerce and Industry (KCCI), the Kenya Association of manufacturers (KAM) the Kenya National Examinations Council (KNEC) and the Kenya Private Sector Alliance (KEPSA).

The TVET sector encompasses many technical industries that deal with various manufacturing and service activities. Since the scope of this study could not accommodate examination of all of

them, the motor vehicle repair and service industry (MVRSI) was chosen because of the diverse skills and knowledge needed to carry on operations in this industry. Further, in in Section 1.3 the MSE were described as: *Micro* enterprises employ between 0–5 workers, whereas *small* enterprises have 6–20 workers. The study focussed on 1919 businesses in the MVRSI, identified through snowballing (details are provided in section 5.2.3 below) and then using purposeful sampling, to ensure representation from both micro and small enterprises (MSE). At the end of the sampling process, the study involved 3 businesses with 0-5 workers, 12 with 6-10, 3 with 11-20 and one with just above 20 (Figure 5.1).

Four training institutions were targeted for interviews with the trainers and trainees, and once again, purposeful sampling was used to cater for size, ownership (private or public) and different institutional types. Eventually, the institutions selected included: a youth polytechnics (YPs), one institutes of technology (ITs), one technical training institute (TTIs) and one private technical institute. This method of sampling was informed by Denzin and Lincoln (2000), who observed that many qualitative researchers use purposeful, instead of random, sampling by looking for individuals, groups and settings where the processes under study are most likely to occur.

In-depth interviews were also held with a Kenya Institute of Education (KIE) officer, former Ministry of Education Science and Technology (MoEST) officer, Ministry of Higher Education Science and Technology (MoHEST) officer and a MoHEST consultant. The first three had been identified early in the planning, but the fourth was recommended by the MoHEST officer, due to his wide experience in the sector. The four officers were viewed as authorities in the training sector because they held influential positions in their ministries. Table 5.1 summarises the number of stakeholders who took part in this study.

Although the above stated respondents are an ideal sample for a qualitative study, they nevertheless represent a very small percentage of the total population. According to the GoK (1999) MSE baseline study, in 1998 there were approximately 4,500 enterprises and this study involved only 19 of them. Likewise, only four institutions out of approximately 1,500 registered by MoHEST, 32 trainees out of a possible 60,000 (UNDP, 2010), and four education officers out of a possible 750 employed by the government were involved in this study.

Table 5.1   Study respondents

Stakeholder	No. selected	Method of data collection
Micro and small enterprises (MSE) Employers Employees	**19** 19 57	 (In-depth interviews) **Total 76**
TIVET institutions Trainers Trainees (final year)	**4** 8 32	(In-depth interviews with trainers and institutional managers, four focus groups with trainees, one from each institution). **Total 44**
Education officers KIE officer Former MoEST officer MoHEST officials MoHEST consultant	**4** 1 1 1 1	1 (In-depth interview with assistance director or in charge of technical education). In-depth interviews with a former accounting officer, MoHEST technocrat and a lead Ministry consultant. **Total 4**
Grand total		**88 semi-structured interviews** **Four focus group discussions**

5.2.4   Data collection Process

The week prior to conducting the interviews was used to plan the data collection schedule. The original aim was to collect all data from a four acre property in Nairobi where several jua kali garages were located, but this was amended to include different business settings across the country as it was thought that more diverse material would be collected. Through snowballing, the garage owners in Nairobi provided telephone contacts of their colleagues in other towns. Those colleagues were contacted and they in turn suggested their other colleagues. Initial telephone contacts were used to decide which businesses would be interviewed. In total 42 businesses were contacted and 20 of them identified for the study. However, one business in Nakuru pulled out of the interview with the owner citing fear of divulging important documents, leaving the 19 who took part in this study (Appendix, 2).

To kick off the data collection process, the researcher, accompanied by an assistant (who was a PhD student) started by visiting two businesses in Nairobi city where together they conducted interviews with the two employers and four employees. This was important to gauge the amount of time taken with each interviewee and to ensure consistency later on when each interviewer carried out the interviews separately. From the initial interviews it was established that it took approximately 45-60 minutes to carry out an interview with an employer and 35-40 with an employee. The researcher and the assistant then traversed the country from Nairobi to Kisumu (starting at Ongata Rongai town, Nairobi city then stopping at Gilgil town, Nakuru town, Kisumu city, Mumias town and lastly Busia town) to collect data (see Appendix 1). In each business the researcher and her assistant undertook the interviews separately—sometimes in the open space and quite often as the worker went on with his duties. The aim was to collect data from the employers and 30 per cent of their employees in each of the businesses. To ensure representation of gender and pre-employment training type (formal or informal), the researcher interviewed the employer first to find out the composition of the workforce. Then, the researcher identified the employees to be interviewed and requested the employer to allow her and the assistant to interview them. At the 19 MSE, in-depth interviews were conducted using the prepared interview questions that allowed for probing to explore more data. Interviews were recorded manually by writing down the answers. Some respondents however, preferred to write down the answers themselves.

The researcher conducted in-depth interviews with two trainers in each training institution—the head of the institution and the motor vehicle mechanic trainer. The researcher then asked the trainers to identify eight final-year trainees from each institution to participate in focus groups (FG) for the study. Where possible, the trainers were requested to include females and any other trainee from disadvantaged groups like the disabled and those from the marginalised areas of the country. Eight members of FG were few enough to allow all members to actively participate in the discussion, yet big enough to produce adequate data because "a large group offers fewer participants a chance to speak, and may encourage some to hide in the crowd and withhold participation" (Fern, 2001, p. 38). The FG discussions were conducted by the researcher, and were transcribed verbatim.

The last group to be interviewed by the researcher were the education officers. Having worked at the Ministry of Education, the researcher was able to secure interviews with senior officers. First, an interview was held with a former MoE officer, who had a vast knowledge of the education system, having been a policy maker for more than eight years. Because of his tight schedule this

interview was held very early in the morning (6.30-7.30am). The second was the MoHEST officer who then recommended the third respondent. The KIE officer proved to be the most difficult to get, but after three days an interview that proved very productive was conducted.

5.2.5   Research design

A research design guides the steps involved in the research process, outlining the "essential building blocks or steps" (Myers, 2009 p. 22). The design also relates the research problem to an appropriate methodology and provides the most effective methods for data gathering and analysis (Ghauri & Gronhaug, 2010). This relationship is presented in Figure 5.1, which outlines the steps that will be followed in this study, and which are described in detail in the following sections.

Figure 5.1   Research Design
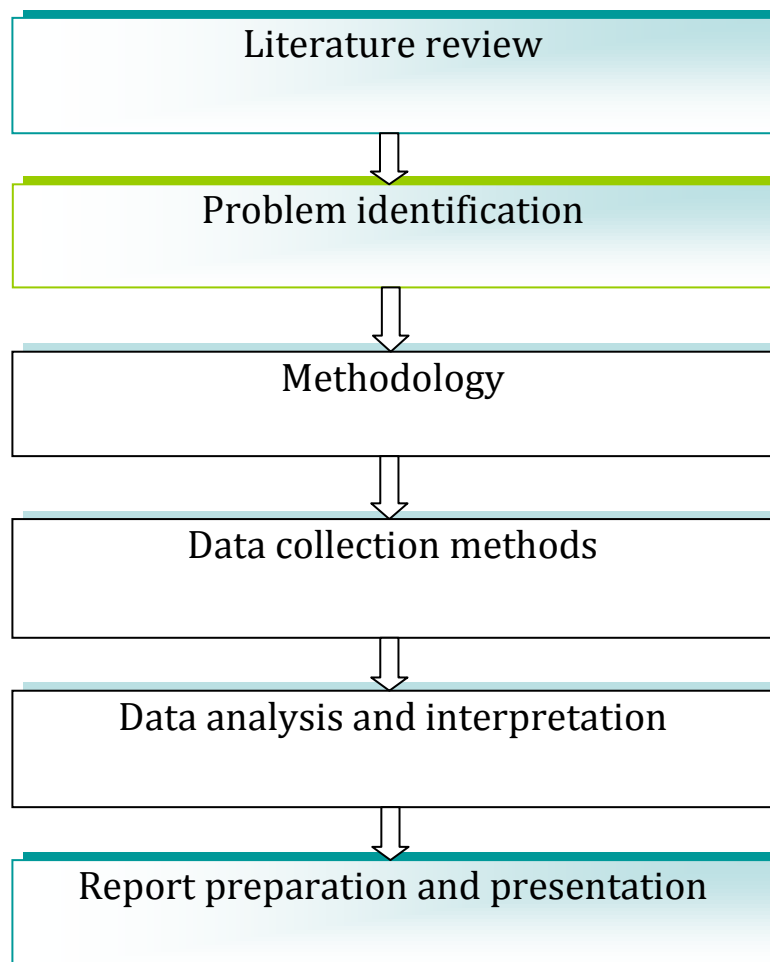
5.3   Methodology

A discussion of methodology reflects the epistemological stance chosen for the overall research process. Hesse–Biber and Leavy (2011, p. 6) describe methodology as "... the bridge that brings our philosophical standpoint (on ontology and epistemology) and method (perspective and tool) together". The methodology gives shape to what is studied (the research problem) and how it is studied (the methods) and it indicates the relationship between the investigator and research participants.

Generally, research seeks to understand a phenomenon or to find answers to the research inquiry through a planned course of action. The choice of the research methodology and data collection tools are also influenced by research questions that seek to gain insight and construct explanations on the phenomenon under study. The intention in this research was to examine actions (T&DNA, training activities and training evaluation) and motivations leading to behaviour patterns exhibited by the stakeholders in MVRSI. This is because it is difficult to understand patterns on their own without investigating the reasons people give for acting in ways that lead to such patterns (Blaikie, 2000).

Empirical or positivist research deals with observation, experience, and experiment to determine guidelines and concepts that can be replicated (Myers, 2009). The interpretivist research on the other hand, focuses on understanding, interpretation, and social meaning that are gathered through the interaction of the researcher and the research subjects (Hesse-Biber & Leavy, 2011).

5.4   Data collection methods

In this study an interpretive view was taken because the aim was to elicit respondents' opinions, experiences and interpretations of the contribution of TVET programs to job-related skills and competencies. The interpretive view presupposes that access to reality that is itself socially construed is primarily done through social interactions to access members' shared meaning, language, experiences and consciousness (Myers, 2009). With a view to understanding this 'reality', this research studied the case of the MVRSI in the Kenyan MSE. Qualitative methods were used to gather data: focus group discussions, semi-structured interviews (see appendices 3, 4, 5, 6 and 7), observations, and secondary data. Each of these methods is discussed in detail in the subsequent sections.

5.4.1   Qualitative approach

While quantitative research involves statistical sampling techniques, establishes representation of a sample to the population and revolves around some form of measurement, the qualitative research focuses on what the participants' behaviour means to them, necessitating the researcher to get close to them and learn their inner culture, thoughts and experiences (Ghauri & Gronhaug, 2010; Myers, 2009). Thus, cases are never really defined or bound until data gathering and analysis are completed, because the research questions and the researcher's insight guide the research.

Veal (2005) described a qualitative approach as a method that involves collecting a great deal of data from a relatively small number of subjects, as is used in this study. Qualitative research uses methods and techniques to gather data and seeks to conduct a reasonable analysis of the data, grounded on assumptions that realism is socially constructed (Johnston, 2010). Denzin and Lincoln (2011) view qualitative inquiry as a positioned action that locates the observer in a world, and which comprises a group of interpretive activities that make the world visible. Data collected this way are used to comprehend people's motivations and actions, and the larger framework within which they work and live (Myers, 2009).

The primary purpose of this research was to elicit stakeholders' opinions, feelings, experiences and understanding of TVET's quality, relevance and effectiveness in the MVRSI in Kenya. In this study, it was important to allow the participants' flow of ideas, experiences and thoughts (that have hitherto not been studied), which was best done by giving the respondents open room for expression through open-ended questions and focus group discussions.

5.4.1.1 Case studies

Yin (2008) defined the case study as a research approach that seeks to answer the 'how' and 'why' questions, while accommodating instances when the researcher has limited power over the flow of information. The case study approach therefore necessitates an emphasis on the research topic. The study makes use of numerous sources of data, but the more telling sources are from documents and interviews. Similarly, Creswell, Hanson, Plano and Morales (2007) viewed case study research as an investigation of multiple bounded systems conducted over time through detailed, in-depth interviews that involve several sources of rich in-context data. In business research, case study research is preferred over other methods when the research topic or setting is a challenging phenomenon, and when areas being studied are numerous and difficult to measure

(Ghauri & Gronhaug, 2010). This research topic presents a challenge because developing a national T&D framework requires examination of diverse areas that deal with the TVET program

Case study has been criticised as a scientific research method for its lack of theory testing, validity and reliability, with some antagonists implying that it does not qualify to be a methodology in its own right, and that it is inferior to a study with bigger samples (Flyvbjerg, 2011). Table 5.2 depicts five common misunderstandings that are sometimes attributed to the case study approach, and the corrected or revised view.

Table 5.2   Case study misunderstandings

Misunderstanding	Revised view
1. General theoretical knowledge is better than concrete case knowledge	Predictive theories and universals cannot be found in the study of human affairs. Concrete case knowledge is therefore more valuable than the vain search for predictive theories and universals.
2. One cannot generalise on the basis of a single case; therefore, the case study cannot contribute to scientific development.	One can often generalise on the basis of a single case, and the case study may be central to specific development via generalisation as a supplement or an alternative to other methods. But formal generalisation is overvalued as a source of scientific development, whereas "the force of example" and transferability are underestimated.
3. The case study is most useful while generating hypotheses (that is, in the first stage of a total research process), while other methods are more suitable for hypotheses testing and theory building	The case study is both useful for generating and testing of hypotheses but is not limited to these research activities alone.
4. The case study contains a bias toward verification—that is, a tendency to confirm the researcher's preconceived notions.	The case study contains no greater bias toward verification of the researcher's preconceived notions than other methods of inquiry. On the contrary, experience indicates that the case study contains a greater bias toward falsification of preconceived notions than toward verification.
5. It is often difficult to summarise and develop general propositions and theories of specific case studies	It is correct that summarising case studies is often difficult, especially the case processes. It is less correct as regards to case outcomes. The problems in summarising case studies, however, are due more often to the properties of reality studied than to the case study as a research method. Often it is not desirable to summarise and generalise case studies. Good studies should read as narratives in their entirety.

Adapted from: Flyvbjerg (2011 p. 302)

The corrected view of the misunderstandings argues that case study can be used as a method to gather and analyse data either on its own or in combination with others. This is because case studies and statistical studies are not in conflict, but rather they are complementary as the former

has the strength of depth (detail, richness, completeness), while the latter has breadth (Flyvbjerg, 2011). In addition, many phenomena cannot be adequately understood if removed from their surroundings, which necessitates the application of inductive, qualitative methods in place of 'hard' measurement or experimentation (Ghauri & Gronhaug, 2010).

In this study, case study inquiry was chosen over other methods as a preferred research methodology because the research problem involved eliciting the participants' view of one specific industry, the TVET system and the methods that the industry uses to solve its labour problem. Because this research entailed the study of a complex education system, with the aim of understanding the T&DNA data-gathering procedures, training processes and training evaluation, of the MVRSI, the nature of the inquiry lent itself to a case study approach. This is in line with Simons (2009), who argues that the primary aim of case study research is to gain a deep understanding of a specific theme, policy, program, institution or system, and to generate insights that can be used for policy debates, professional practice and civil actions.

5.4.1.2 Focus groups

In addition to the one-on-one interviews, four FG discussions of eight students each were used to gather data from final year learners of each training institution under study. FGs allow shared opinions of a particular defined subject that is of interest to a group of individuals who have had certain shared experiences (Myers, 2009). The aim of the FGs was to answer the 'how' and 'why' questions that produce rich, multifaceted, nuanced and even challenging explanations of how people attribute meaning to, and construe their understandings (Kamberelis & Dimitriadis, 2011).

To conduct a successful FG discussion, an interviewer has to possess rich interview skills so as to elicit opinions, attitudes and beliefs held by members of a group. Such skills include being sensitive to others' views, being quick to spot issues that deserve further clarification, and being able to keep all participants attentive and responsive and to avoid wasting time (Myers, 2009). In this study, the researcher had been a trainer and an assessor at the TVET institutions, making it easy for her to develop a rapport with the trainees. She was able to sufficiently moderate the discussions and ensured the participation by a majority of respondents instead of allowing a few participants to dominate the conversations. This was done by asking participants to clarify their answers, by using additional questions to elaborate on a point, and, by asking the less confident members for their opinions.

When well done, data generated from FGs are rich and descriptive because ideas build and people work to explain why they feel the way they do. FG discussions bring synergy in the conception and dynamism of ideas'while generating data that can complement that produced from individual interviewing. The FG discussions also present ideal sources of data on how diverse groups in a community perceive their status or challenges (Murray, 1998). FG discussions have several advantages, as shown in Table 5.3.

Table 5.3   Advantages of group discussion

Synergism	Combined effect of the group produces a wider range of information, ideas etc.
Snowballing	A comment by an individual often triggers a chain of responses from other respondents.
Stimulation	Respondents become more responsive after initial introduction and are more likely to express their attitudes and feelings as the general level of excitement increases.
Security	Most respondents find comfort in a group that shares their feelings and beliefs.
Spontaneity	As individuals are not required to answer specific questions, their responses are likely to be more spontaneous and less conventional.
Serendipity	The ethos of the group is likely to produce wider ideas and often when least expected.
Specialisation	The content allows a more trained interviewer to be used and minimises the possibility of subjectivity.
Scientific scrutiny	The nature of the inquiry allows a closer scrutiny in the technique by allowing observers or by later playing back and analysing recording sessions.
Structure	Discussions afford more flexibility in the topics that can be covered and in the depth in which these are treated.
Speed	Given that several individuals are being interviewed at the same time, this speeds up the process of collecting and analysing the data.

Adapted from (Fahad, 1986, p. 322).

Some of the above-stated advantages were observed during the study: for example, a contribution by one individual triggered a chain of reactions from the others, which then sparked diverse,

spontaneous and less conventional ideas; members of the group seemed to express themselves freely—they were flexible and confident, and the excitement increased as the discussion progressed; and a lot of data were recorded by taking notes and audio taping the interviews in a relatively short time.

FG discussions also have potential disadvantages: doubts about validity, interviewer variability, degree of freedom, sample size, too much interaction, and self-appointed leaders who may influence others' opinions (Fahad, 1986). The researcher addressed some of the issues that arose at various stages of the discussion. For example, the number and choice of the respondents were determined to ensure adequate interaction and sufficient data. Final year learners were chosen because they had already been trained for two years and had experienced the workplace during field attachments that lasted six months. Although they had not finished their course, they were presumed to have had enough experience of the motor vehicle vocational education course to provide views on their training. Eight participants in each FG allowed for sufficient interaction among members, while being small enough for the interviewer's moderation.

The first FG discussion was challenging for the interviewer, but the successive ones improved as the interviewer's confidence grew. Further, it was found that the learners at the lowest level of training (the youth polytechnic) were less expressive and had more difficulty with technical terms compared to those at higher levels. But in all instances, the participants were encouraged to speak in Kiswahili, which was later translated to English by the researcher, who is conversant in both languages. Another aspect of the discussion was that some respondents attempted to influence the responses of others, which required intervention by the interviewer to ensure that the voices of more timid participants were heard.

5.4.1.3 Semi-structured questionnaires

The researcher decided that in order to keep a focus on the topic, semi-structured questionnaires should be used through a combination of pre-conceived questions, and ad-hoc probing questions that were attuned to the concerns of the respondents (see Appendices, 2, 3, 4, 5 and 6). According to Baker and Foy (2008), semi-structured questionnaires comprise a mixture of open and closed questions that represent a middle ground between fully structured and unstructured interviews. This mixture was important because it accommodated new issues and themes that arose, and ensured that the researcher could identify ideas that the study intended to research. Baker and Foy (2008) note that the semi-structured questionnaire is a useful method " . . .when sampling a population to ensure that one has the necessary factual information for determining its

representativeness, for ensuring that quotas have been filled, when the primary purpose is to get a feel for attitudes, opinions, etc. . ." (p. 229).

Critical incidents formed part of the data collection and analysis, in which participants were encouraged to cite instances in which something deemed unusual or extremely important had happened to them. These incidents provided systematic ways for demonstrating the importance that respondents ascribed to events, for analysing developing patterns, and for drawing tentative conclusions (Kain, 2004). In the next chapter (data analysis and interpretation) some of the incidents cited by the respondents, and which were considered important for this research, have been quoted.

5.4.1.4 Observation

Observation was used in the institutions and businesses under study to determine the day-to-day processes and activities. Observation entails listening to people, watching their behaviour and noticing natural settings in a way that allows some type of learning. This prompts intellectual inquiry into the meaning and possible analytical interpretation of observed behaviour. Baker and Foy (2008, p. 147) argue that observation "avoids the possibility of distortion that may arise when people are asked to report their own behaviour". This is because the researcher has a first-hand experience of the phenomenon under study.

During data collection, observations were made of the available motor vehicle mechanics' training equipment, interactions among the employees, between employees and the employer, the general set-up, and, customer service habits and interactions. In the institutions, observations were made of the physical facilities, learner behaviour, information posted on the walls (especially that which dealt with examination performance), and the interrelationships among trainers and students. The aim was to produce data that could be used to compare with data gathered through interviews and other methods.

5.4.1.5 Secondary data research

Documents that relate to the topic under this study were examined. These documents were retrieved from government ministries, libraries, organisations that related to the research and from training institutions. The data gathered from the documents provided background information about past processes of employee training and employment, and revealed figures and systems used. Archival research included items such as annual reports, newspaper clippings,

organisational charts, exam reports and meeting minutes. These are necessary to supplement primary data and to help in research questions formulation (Myers, 2009).

In the use of documentation, caution was observed to gauge the quality of the information by retrieving only those sources that were deemed useful to the study. Baker and Foy (2008) advise that, because the quality of information is variable, a researcher needs to be guided by rules of evidence. For instance, secondary data gathered by international organisations and governments are usually of a high quality because they are compiled by experts using rigorous methods; these can be used for cross-cultural comparison with similar information from multiple countries (Ghauri & Gronhaug, 2010). Other data, like those found in international journals of research, have gone through peer-review scrutiny before being published, making them reliable.

However, the main disadvantage with secondary data is that it has been collected for another study with different research problems, objectives and limitations, and it may not always be suitable for the current problem. It is important, therefore, for the researcher to identify in the research problem what is already known and what is needed to further the research (Ghauri & Gronhaug, 2010). Another possible disadvantage is that the authenticity of the findings is affected by the length of time since the data were collected, the place of collection in relation to the location of the study, and the methods of data analysis. In this study, the researcher thoroughly critiqued the sources and correlated the evidence with other sources before accepting them for review and use.

5.4.1.6 Multiple sources of data

To build a detailed case study, the researcher collected the following data: in-depth interviews, FG discussions, observation and secondary data. This is in line with six types of data recommended by Yin (2004): archival records, direct observation, documentation, interviews, and physical artefacts that bring a contextual understanding by relying on multiple sources. The diagram below demonstrates the convergence of data from multiple sources, in an effort to obtain factual information. Using multiple sources generates more and diverse data and is rated more highly in terms of overall quality than a single source (Yin, 2004).
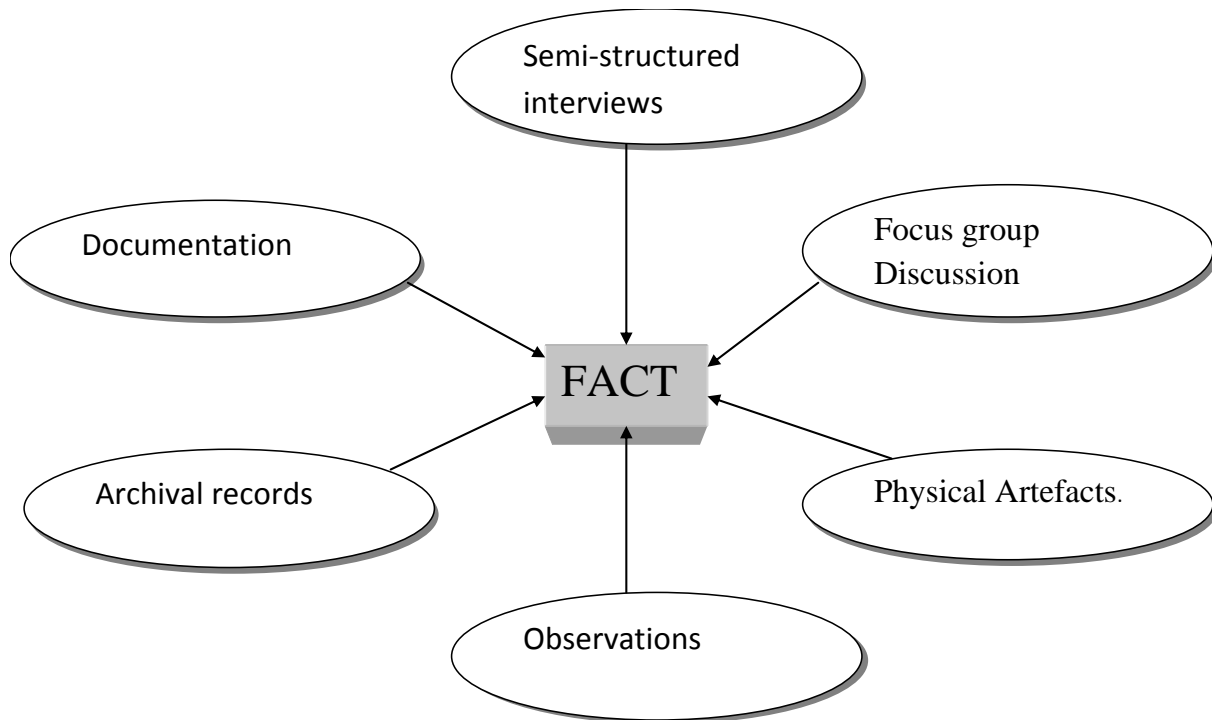
Figure 5.2   Multiple sources of evidence

Source: (Yin, 2004).

In addition, data from many sources of information allows for a degree of confirmation of findings, plus contributing new ideas and renewed insights. Despite these advantages, Ghauri and Gronhaug (2010) have identified three challenges of using multiple sources:

1. It can be very difficult to establish if the data from different sources are consistent or not.

2. Sometimes the different methods lead to different results.

3. Some researchers emphasise one method over the other.

In this study, it was found that some government documents were vague and idealistic about actions plans. Since the aim of this research was to capture the various perspectives of stakeholders, more weight was given to primary data collected from interviews with the participating stakeholders that were identified in section 5.2.1.

5.5   Data analysis

In this study a large amount of data were collected from the respondents, which necessitated reduction and editing to make them manageable and meaningful. Case studies tend to generate

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large amounts of data from several sources, making the analysis and organisation of the data critical (Johnston, 2010). At the end of data collection the researcher scrutinises the raw data, using interpretations and clarifications to establish causal relations, and then presents a report of the findings, drawing conclusions that are supported by evidence.

In analysing qualitative data, it is sometimes difficult to make a clear delineation between data gathering and analysis because some preliminary analysis and interpretation occurs during data gathering (e.g. making sense of and recording observations), and sometimes analysis reveals the need to double and seek more data. Ghauri and Gronhaug (2010, p. 197) observed that in qualitative research "... data collection and analysis are often conducted together in an interactive way where collected data are analysed, initiating new questions, and initiating further data collection". In this research it was observed that the answers received during the interviews determined the categorisation of data, which formed part of the analysis.

5.5.1   Content analysis

In case studies there tends to be significant amounts of data because respondents are given some scope to express themselves freely; this amount of data can overwhelm the researcher in his/her attempt to analyse it (Ghauri & Gronhaug, 2010). To deal with this, content analysis is applied to seek structures and consistencies in the data collected (Myers, 2009). Devlin (2006, p. 198) summarised the steps in a content analysis below:

1)   read through all the written responses

2)   create a condensed list of the responses

3)   create a list of categories (no more than six or seven)

4)   develop an operational definition for each category

5)   conduct inter-rater reliability analyses on a sample of each category.

Codes function as shorthand strategies to distinguish, label, compile and consolidate data to make it easy to manage information for the purpose of interpretation. Hesse-Biber and Leavy (2011) view content analysis as a cyclical or 'spiral' approach to knowledge-building, where data are cumulatively analysed bit by bit. Here "... the researcher generates new understandings with varied levels of specificity, during each phase of the project and uses this information to double back and gain more information" (p. 234). This design is shown in Figure 5.3.
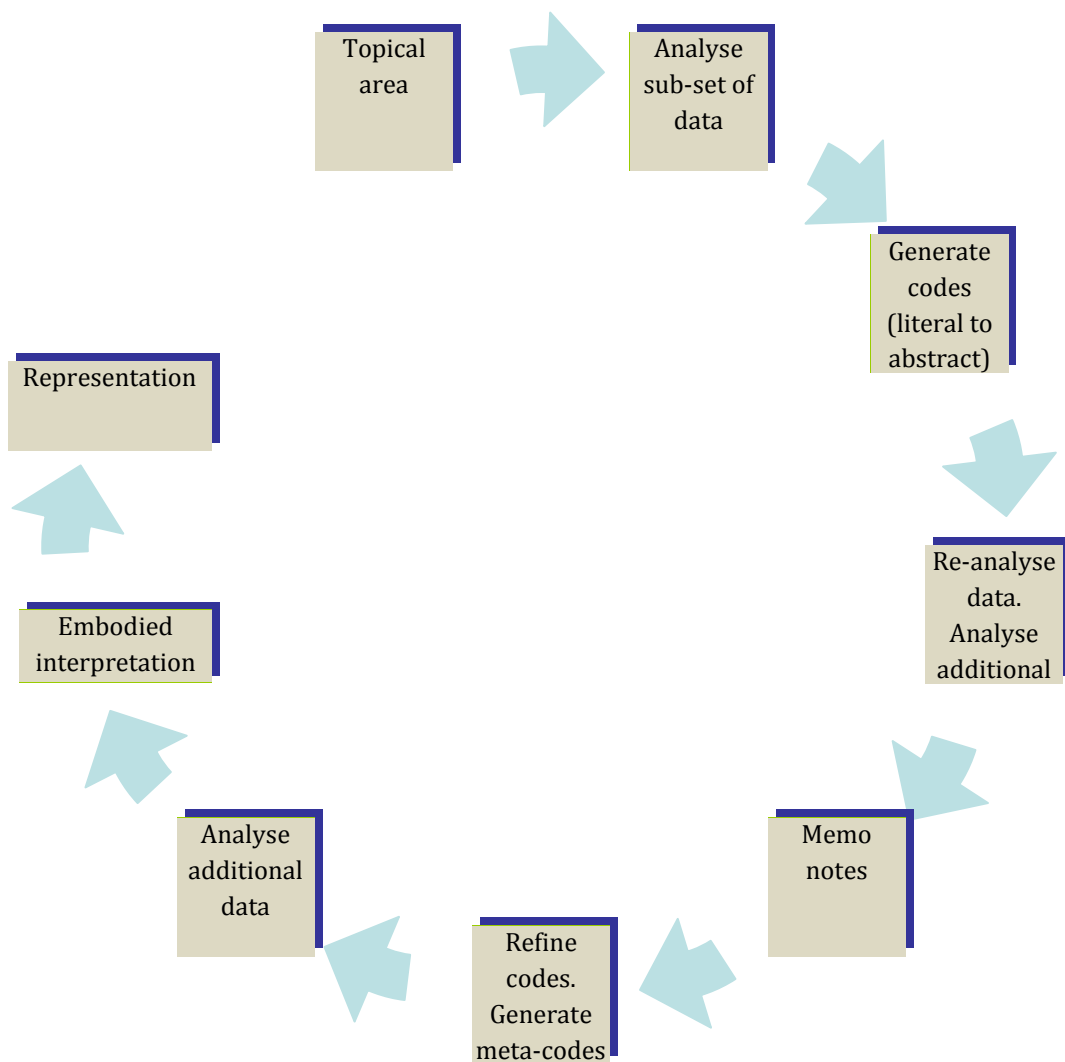
Figure 5.3   Content analysis flowchart: Qualitative model (inductive)

Source: Neuendorf (2001) cited in Hesse-Biber & Leavy (2011, p. 234).

According to Hesse-Biber and Leavy (2011) the researcher starts with a topic and research questions; codes are generated from the data under study; and then the researcher doubles back to re-examine data applying the new code categories. Although these steps may not be followed as precisely as presented, they act as a guide to systematic data analysis and interpretation.

In this study the following activities were carried out to analyse the data gathered.

1. All the data collected from different sources were merged and read through.

2. All items of data that shared common characteristics were classified into categories that were based on the three phases of a developed T&D framework.

3. Statements were developed to define each category.

4. The data were coded by identifying any patterns, sequence or system in the recorded information. Baker and Foy (2008) differentiate classification and coding thus: "classification is concerned with the creation of categories, while coding is the technique used to assign the raw data to the correct category" (p. 294).

5. The researcher and a fellow PhD student separately examined a sample of the data and placed different definitions into their correct category. The two sets of coded data were then compared and found to closely correlate. This was done to develop inter-rater reliability by allowing an independent judge to place the operational definitions into their rightful categories.

5.6   Measures of consistency

In most research a primary concern is with validity and reliability. Webb (2000 as cited by Baker and Foy 2008) notes that validity is the extent to which a tool measures what it is expected to measure, whereas reliability denotes the consistency of achieving similar results when the measure is repeated. Therefore, while valid measures will always be reliable, a reliable measure may not always be valid (Baker & Foy, 2008).

5.6.1   Validity

Qualitative research has a high concern for internal validity because qualitative measures are not statistically tested, and most data are collected through verbal methods that are difficult to measure. In addition the multiplicity of data adds to the real threat to internal validity and calls for the researcher to be extra vigilant. In this study, FG discussions proved the most divergent of the responses and the researcher often had to ask for clarification and consensus where the outlook was divided. In addition, to address opposing explanations, different responses were checked for similarity in pattern and account to ensure that a third factor was not the cause of the explanation, as recommended by Yin (2008). Amerson (2011) further adds that one can accomplish internal validity by using various methods such as pattern matching, explanation building, using logic models, or addressing rival explanations.

To deal with construct validity, the researcher used multiple sources of evidence and had the respondents review recorded data to ascertain its authenticity. This is in line with recommendations by Amerson (2011, p. 428), that "construct validity is established by using multiple sources of evidence, maintaining a chain of evidence, and having a key informant review the draft of the case study report or through member checking". Furthermore, all taped interviews and discussions were kept safely and referred to during analysis to clarify any ambiguous statements. To clarify vague statements and contradictory information during the interview process, opinions were sought from colleague respondents. In addition, the researcher explained technical terms, and in some instances she translated the study's interview questions to the national language (Kiswahili) to avoid misrepresentation of facts.

External validity defines the extent to which particular research findings can be generalised to other populations and to the broader world (Devlin, 2006), and the extent to which the outcome of a study in one or more instances applies to others that have not been studied (Dul & Hak, 2008). In this research project 19 MSE in the MVRSI and four training institutions were used to collect data that was deemed sufficient. Although this sample is not sufficient for generalisation, the research provokes more study by presenting multiple views from the stakeholders in the MVRSI, which can be replicated for other industries.

Curran and Blackburn (2001) identified seven 'maxims' for establishing validity in qualitative research, five of which were relevant to this research:

- The statement of the problem is expressed clearly and precisely.

- All key concepts and assumptions are stated clearly and precisely.

- The methodology is systematic, clear and adequate. In this study case study methodology was used.

- The methods of analysis is precise about elements of interpretation and the logic linking the those elements

- The research determines whether the implications for policy and practice receive sufficient attention.

To address these assertions and questions, the following activities were carried out. The statement of the problem was clearly and precisely stated in Chapter 1 and repeated at the beginning of this

chapter, and this was communicated to all the participants of this research. The study objectives and research questions were also clearly presented in Chapter 1 and the research methods have been described in this chapter. Analysis of the data was done using content analysis and presented using simple frequency measurements, and the interpretations presented in the next three chapters. Lastly, a summary detailing the implications of the findings has been established and recommendations for further research have been made in the last chapter of this study.

5.6.2 Reliability

Reliability is defined as the degree of consistency with which instances are assigned to the same category by the same observer or different observers (Silverman, 2005). While quantitative research views reliability in terms of the consistency in measures, qualitative researchers argue that attention to reliability of research study results should not be ignored (Kirk & Miller, 1989 as cited by Silverman, 2005). Reliability in qualitative research focuses on the perspectives of a number of observers and the reality's constantly changing characteristics. Goodwin and Goodwin (1984) argued that reliability is a critical issue for two main reasons: to help ensure replicability of research findings and to provide a necessary prerequisite for validity. The authors outline four types of reliability that are relevant to qualitative measurements:

- Inter-observer, inter-interviewer, inter-recorder reliability, and inter–analyst reliability. This refers to the extent of agreement among two or more observers in the data collection phase and the extent to which independent analysts agree on the identification of data segments to be coded and classified.

- Intra-observer, intra-interviewer, or intra-recorder reliability and intra-analyst reliability. This refers to the extent of consistency of data collection techniques that observers, interviewers and recorders use, and the extent of consistency to which a single researcher identifies the same data segments for coding, classifying and categorising.

- Stability. This refers to the extent of repeatability of observed behaviour or attitudes expressed by the respondents.

- Internal consistency. This refers to the degree of homogeneity in the approach, scheme or schedule used during data collection, and the extent of homogeneity of placing data segments in each derived category.

Neuman (2003) refers to internal consistency data collection in terms of gathering data in field observation as the researcher checking whether the data gathered is reasonable, whether it fits together, whether it adds up, and whether there is consistency in observable behaviour over time and in different circumstances. He adds that external consistency is attained by verifying or cross-checking data gathered from divergent sources and methods, and argues that reliability is influenced by the researcher's questions, insights, cognisance and suspicions; the researcher looks at the study's respondents and procedures from different perspectives (economic, political, legal and personal) and mentally seeks answers. Thus any changes in phenomenon over time should be due to observed variations rather than to the method of data collection (Cuneo & Sanders, 2010).

To ensure reliability of this research, the following activities were carried out:

- First, interviewees were contacted by phone at least a day before the interview, both to confirm the appointment and to inform them of the topic and particular areas of concern. They were encouraged to bring any relevant documents that would support or confirm their assertions, and the researcher took hand-written notes to record the conversations.

- Second, the focus group discussions were all taped using an audio recorder and field notes. The data were later transcribed by the use of Nvivo soft-ware and used for analysis.

- Third, the researcher compared data collected from multiple sources to authenticate them. Categories and codes were established and then data were placed into these.

- Fourth, the researcher sought the help of a fellow PhD student to re-examine a sample of data and place different definitions into categories.

5.7 Ethical issues

Ethics is defined as the "use of moral ideologies in designing, conducting, and writing the research outcomes, with the essential moral standards focusing on the right and the wrong" (McNabb, 2002, p. 36). In qualitative research, ethics involves protection and respect for respondents taking part in the study (Payne & Payne, 2004). Questionable practices, such as intrusion into people's privacy, or exerting influence by offering inducements, are matters of concern that need to be addressed by professional bodies (Baker & Foy, 2008). Debatable issues that have been identified by Robson (2002) include inducing non-consenting individuals, coercion or deception, withholding research information or benefits, deception, violation of self-determination, exposing participants to physical or mental stress and invasion of privacy.

In this study every effort has been made to ensure that data collection and interpretation conformed to ethical standards as set out by the Edith Cowan University's guidelines (ECU2010, p. 1), which state that:

- The welfare and rights of the participants take precedence over the expected benefits to human knowledge.
- The free and informed consent of participants involved in research projects is obtained; and
- Research projects take into account local, cultural and social attitudes.

To comply with the ECU standards of ethics, approval for this research project was granted on 25 October 2010 and assigned project number 5902. Furthermore, this research complied with requirements of section 1.6 of the National Statement on Ethical Conduct in Human Research (2007) which states that "Researchers must foster and maintain a research environment of intellectual honesty and integrity, and scholarly and scientific rigour" (Australian Government, 2007).

To safeguard this study's research ethics, all respondents were made aware of their rights in participating in the study. They signed an informed consent form (see Appendix 8), which outlined the following:

- purpose of the study

- identity of the researcher (address, email and location), supervisors and learning institution

- respondent's role in the research

- degree of confidentiality

- use of data and its storage

- process for termination of involvement at any time and for any reason (see appendix 9).

Sensitivity to the respondents' personal information, for example income levels, was considered, with a range of figures being used for collecting information to determine income instead of a definite number. Furthermore, interview questions were made simple and clear to avoid any misunderstandings and avoid ambiguity. Technical terminologies was defined and explained, and the interview appointments were set and communicated before the actual date. Courtesy was

observed during the interview and the respondents were allowed sufficient time to answer questions.

All sources of secondary data have been appropriately acknowledged through their words being paraphrased, summarised or quoted to avoid any case of plagiarism. The research was done in a transparent and accountable manner; the respondents were assured of anonymity and confidentiality and they were offered a soft copy of the finished thesis on request. All efforts were made to conceal the identities of any personal documents used in the study (e.g. financial statements or business meeting minutes). Data collected in the form of transcripts, questionnaires, coded information and analysed data, both soft and hard, were stored in lockable cupboards.

5.8   Summary

The development of the research design has been discussed in this chapter, by outlining the activities carried out in data collection, analysis, interpretation and presentation. The sample of respondents involved 19 employers and fifty-seven employees from MSE in the MVRSI, eight trainers and four focus groups' discussion of eight students each from four TVET institutions, and four government officers.

Case study research methodology has been outlined, and the justification of its use advanced. To collect data, semi-structured interviews were used in businesses, training institutions and government departments. The coordination of four focus group discussion with the final year learners in institutions gave the students an opportunity to offer their input on the training they received. In addition, observations were made in the MSE and institutions, while secondary data in the form of documents were collected from government departments, institutions and business organisations. Methods of data analysis and interpretation have been summarised.

CHAPTER 6   FINDINGS

6.1   Introduction

This chapter presents data from the interviews, focus group (FG) discussions and observations carried out concerning the three phases of a training and development (T&D) framework. The chapter starts by presenting profiles of the respondents involved in this research. Then in sections 6.3 and 6.4, a discussion of the findings of the first phase of a T&D model—the training and development needs assessment (T&DNA) phase. This phase is sub-divided into training needs analysis (TNA) and training objectives. In section 6.5, findings of the stakeholders' views of the second phase of T&D—the training processes or training activities in Kenya's Motor Vehicle Repair and Service Industry (MVRSI) is presented. This phase involves the activities carried out in the curriculum implementation that includes designing the training program and using different methods to achieve stated objectives. Then in section 6.6, the processes of the TVET program's evaluation is discussed as outlined by the education officials and trainers. Further, since all employers that took part in this study carried out some form of training, their evaluation processes have been outlined.

6.2   Respondents' profiles and their organisations

In this study, respondents comprised 19 MSE employers, 57 MSE employees, a former senior officer in the Ministry of Education Science and Technology (MoEST), the assistant director in charge of technical education at the Kenya Institute of Education (KIE), a senior technocrat in the Ministry of Higher Education Science and Technology (MoHEST), a lead consultant in the same ministry, four training institution managers, four trainers and thirty two final-year trainees. The respondents' profiles are presented in the following section.

6.2.1   Employer profiles

The 19 employers' details are presented in Table 6.1 below. To easily identify them, each was given a code ranging from ESN1 to ESN19. All the employers were male, which reflects that ownership and leadership in the MVRSI is predominantly male. The age distribution of employers indicated that 10.5 per cent were between 35 and 40 years, while 86.2 per cent were above 40 years of age. The one manager interviewed was between the ages of 26 and 30 years. This information suggests that most employers started in paid employment and, after acquiring experience and capital, set up their own garages. As one of the employers observed, TVET graduates find employment to acquire skills and gain capital with the expectation that, later on,

they will open up their own businesses. Apparently this expectation makes employers view them with suspicion, because they are potential competitors.

Of the 19 employers interviewed, 21 per cent had a primary school education, and 79 per cent had a secondary school education—an implication that the more education one has, the more likely one is to own a business. Higher education enables a person to obtain more information from print and other types of social media, and to interpret written documents such as those with financial details, besides assisting one with research and social mobility. Responses to training questions on employers' pre-employment training indicated that 31.5 per cent of the employers were informally trained, five per cent went through a formal apprenticeship program, 42 per cent had a craft certificate, and four per cent had a technician certificate. In total, 67.4 per cent had gone through a formal kind of training—an indication that training had a positive correlation to becoming an owner or a manager of a motor vehicle garage.

TVET program enables a graduate to acquire an artisan, craft, technician or a technologist qualification. The Government of Kenya, [GOK] (2003b) gives the following descriptions of the levels of formal vocational qualification:

- A qualified *artisan* is a skilled person with sufficient techniques needed to perform a job with efficiency in a specific trade. This person holds a certificate from the youth polytechnics (YP) that are spread all over the country.

- A *crafts graduate* is a skilled person with a specific proficiency, and who has the ability to perform a practical job or work at a higher level of efficiency than an artisan. The graduate possesses more relevant scientific and technological knowledge. They hold a craft certificate from a technical training institution or an institute of technology.

- A *technician* holds a diploma certificate and has the ability to perform a wide range of skilled and analytical tasks efficiently. This person is required to interpret, design and supervise other employees.

- A *technologist* is essentially a manager in the work set up who has the ability to perform a wide range of assigned tasks like designing systems at a high level of proficiency. This person possesses a degree in science and technology.

To gather more and adequate data about the participation of employers in TNA and objective formulation of the TVET courses, the assistant director of KIE recommended the Kenya Private

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Sector Alliance (KEPSA), the body that identified employers, to take part in curriculum development activities. Although a representative of KEPSA was not available for an interview, he referred the researcher to the KEPSA website (www.kepsa.or.ke), which had the following information. KEPSA is an umbrella body of private sector member associations that represents both small and large businesses. Its strategic focus involved advocacy for its members by identifying gaps and opportunities in the national and regional business related issues. It also coordinates its members' engagement in public-private sector negotiations, making it the topmost association and distinct voice of the private sector. Its membership comprise more than 60 business membership organisations and about 180 corporate organisations (KEPSA, 2010).

6.2.2   Business profiles

The businesses under study were identified using purposeful sampling as described in section 5.2.2 to cater for diverse features such as location, number of workers and level of sophistication of the equipment. According to a GoK (1999), 60 per cent of all MVRSI businesses are found in major cities and towns and have an average size of 1.8 workers, with only two per cent employing more than ten workers. The total number of employees in the 19 businesses involved in this research was 148 workers; of these 134 were male and 14 female, representing 90.5 per cent and 9.5 per cent respectively. Sixteen per cent of the businesses had 0–5 employees; 63 per cent had 6–10; 16 per cent had 11–20; and only five per cent had more than 20. Of these 148, only 40 (27 per cent) had been formally trained at TVET institutions; the remaining 108 (73 per cent) had informal training, starting as 'spanner' boys before graduating to more challenging roles and responsibilities. This information is presented in Table 6.1 below.

Table 6.1   Employer and business profiles

Employer gender	Male	Female			
No. of employers n=19	19	0			
Employers' age (years)	26–30	31–35	36–40	Over 40	
No. of employers n=19	1	0	2	16	
Highest level of education	Primary school	Secondary school			
No. of employers n=19	4	15			
Employer pre-employment training	Informal	Apprenticeship	Craft	Technician	Technologist
No. of employers n=19	6	1	8	4	0
Age of the business	0–3	4–6	7–9	9–12	Over 12
No. of businesses n=19	0	5	6	4	4
Number of employees in each business	0–5	6–10	11–20	Over 20	
No. of businesses n=19	3	12	3	1	

6.2.3   Employee profiles

Each employee was represented by a code, ranging from SN1 to SN57, for identification and analysis. As discussed above, the ratio of male to female employees was roughly 9:1, while that of pre-employment formal training to informal training was 27:73. To obtain a representative sample, the interviewer undertook purposeful sampling, to cater for gender and training types. This was necessary as the MVRSI is largely male-dominated and the researcher wanted to source data from even the smallest group of stakeholders. This was to avoid repeating a situation such as happened with Barasa and Kaabwe (2001) whose study sample in the MVRSI comprised of male respondents only.

Of the 57 respondents 53 were male while four were female, a representation of 93 per cent and 7 per cent respectively. The ages of the respondents varied from 26–30 years (38.5 per cent), 31–35

years (42 per cent), 36–40 years (15.7 per cent) and above 40 years (3.5 per cent), which indicates most employees were young. Three possible explanations can account for this distribution: (1) automotive engineering is an attractive career for young, curious and innovative people; (2) most of the young employees are trainees in the businesses; and (3) most future employers start off as employees with the aim of acquiring the necessary skills and capital before moving on to start their ventures. The last explanation was an assertion made by many young employees, especially those who had a formal education; their aim was to start their own business or to seek employment in a big company such as Toyota or DT Dobie.

Of the 57 employees who took part in this study, 92.9 per cent of the respondents had a secondary school education, while the rest had a primary school education; 43.8 per cent had TVET training and 56.2 per cent were informally trained. Of the workers, 42.2 per cent had been employed in their present business for only 0–3 years, 43.8 per cent had worked in the same place for between four and six years, 12.2 per cent for between seven and nine years and only 1.8 per cent had been in the one business for over ten years, suggesting that the businesses had a fairly high employee turnover. A possible explanation for the high turnover could be a relatively young workforce that had just graduated, or, as one employer said, poaching by other businesses, which increases mobility. Most of the workers did not have formal employment or job security, a factor that further contributes to the high mobility. Two employers, ESN13 and ESN14 disclosed that they contracted an employee depending on the type of job at hand and on a need-to-need basis.

Table 6.2   Employee demographics

Total number of employees in the 19 businesses	Male	Female			
N=148	134	14			
Pre-employment training of all employees	Formal	Informal			
N=148	40	108			
Gender of employees who participated in the study	Male	Female			
No. of employees n=57	43	14			
Age of participating employees (years)	26–30	31–35	36–40	above 40	
No. of employees n=57	22	24	9	2	
Highest level of education of participating employees	Primary school	Secondary school			
No. of employees n=57	4	53			
Pre-employment training undertaken by participating employees	Informal	Apprentice-ship	Craft	Technician	Technologist
No. of employees n=57	29	3	24	1	0
Length of time in employment of participating employees	0–3	4–6	7–9	10–12	over 13years
No. of employees n=57	24	25	7	1	0

6.2.4   Education officer profiles

Four senior officers in the government were interviewed. First to be interviewed was a former senior officer at MoEST, who had been employed in this position for eight years. The officer had overseen the introduction of free basic education, presided over the drafting of *Sessional Paper No.1 of 2005*, which charted the way for the education sector for the following five years. Mapping of all education institutions, the proposal of a TIVETA (Technical Industrial, Vocational, Education and Training Authority) and the production of the document *A rapid appraisal on the status of technical and vocational education and training (TVET) in Kenya (GoK, 2003b)* had all taken place while the officer described above was in charge of policy decisions. The respondent was seen as an authority in this sector.

Second, a senior technical officer in charge of policy formulation and implementation at MoHEST was interviewed. The officer was charged with the overall responsibility for policy direction, administration, supervision and regulation of TVET in Kenya, including curriculum development, and private training providers' regulation. His ministry was mandated to coordinate TVET functions under the tutelage of the DIT. This respondent had significant experience in vocational education and training, and was viewed to be a vital source of data for a comprehensive study.

Third, a consultant in MoHEST was interviewed. The consultant was the lead person in the design of numerous policy documents that were in use in TVET, including the TVETA (which was still awaiting cabinet approval). This consultant was recommended to the researcher by the Education Secretary in MoHEST, due to his hands-on experience in the field of technical education.

Fourthly, an interview was held with an assistance director at KIE, who was in charge of TVET curriculum design, implementation and monitoring. According to its strategic plan (2006), the KIE is authorised to: conduct research, design syllabi, produce learning and teaching materials, conduct in-service training for serving teachers and teachers who carry out trials and experiments of instruction materials and new syllabi. KIE also conducts orientation programs for education officers to inform them about curriculum developments for schools and teachers' colleges. The mandate of KIE extends to all education levels except universities. These levels include pre-primary school, primary school, secondary school, teacher training, special needs education, post-school technical and business training, non-formal education, and adult and continuing education.

To fulfil its directives, KIE works closely with professional associations, the industry, and Faith-Based Organisations to ensure that the curriculum developed is relevant while maintaining close linkages with publishers for the development of the right learning and instruction support materials. This respondent had a good understanding of these responsibilities and was important in this study because the curriculum identified the objectives that guided the development of TVET in its implementation and subsequently its relevance.

All four officers were assigned a code that was used for the study, as shown in Table 6.3.

Table 6.3   Education officers' codes

Education Officer	Code
Former officer at MoEST	EO1
Current officer at MoHEST	EO2
MoHEST consultant	EO3
KIE assistant director	EO4

6.2.5   TVET institution profiles

Four institutions were targeted for this research, where the institution head and the motor vehicle trainer were interviewed. The institutions were selected to access varied data from a cross-section of training levels, ownership and management. In each institution, eight final-year learners also participated in focus group discussions that delved into their experience in motor vehicle training. The researcher also observed the general set-up of the institution, the machinery used and the documents made available by the institution head. The four institutions, their trainers and their focus groups were represented by codes, as shown in Table 6.4.

Table 6.4   Institutions' coding

Institution	Institutions' codes	Trainers' codes	Focus groups' codes
Private institute of technology	ISN1	TSN1, TSN2	FG1
Technical training institution	ISN2	TSN3, TSN4	FG2
Institute of technology	ISN3	TSN5, TSN6	FG3
Youth polytechnic	ISN4	TSN7, TSN8	FG4

6.3   Findings: Training and development needs analysis

This is the first phase of a T&D program, which involves first gathering data from stakeholders using different methods of data collection and then analysing it and then presenting it. The

T&DNA is composed of two distinct elements: the TNA, and training objectives that guide the second (training activities) and third (evaluation) phases. These processes are discussed in the following section.

6.3.2   Findings: Training needs analysis

The first step in this research was to identify the processes used to assess training needs in the MVRSI. In Kenya, ideally, TVET's TNA is the responsibility of MoHEST, which is charged with conducting the training program. KIE, the body that designs and develops the curriculum, is expected to work closely with MoHEST to realise the findings of the TNA and incorporate them into the curriculum development. According to EO4, TNA data gathering is expected to be carried out at the institutions, the industry, past graduates, parents' organisations, education field officers and training providers. The views of the stakeholders on TNA are presented below.

6.3.1.1 Employers' views of training needs analysis

None of the employers involved in this study had ever been asked about their needs or contribution to the motor vehicle industry. According to them, if the authorities ever assessed their needs it was perhaps by observing the garages, or through their representatives in the Federation of Kenya Employers or the umbrella body of KEPSA, but none of the respondents had ever been officials of those two organisations. The employers identified their lack of adequate representation as a cause of problems within the sector. ESN3, ESN6 and ESN9 recommended that the informal sector (*jua kali*) should not be overlooked, as their contribution was necessary to ensure that the TVET curriculum fits the requirements of the labour market (they need to be consulted), whereas ESN11 recommended more collaboration between the training providers and the industry (future employers) to accurately assess the industry's skill needs.

All the employers interviewed said they provided some kind of training, although some could not describe its structure. They assessed their training needs through observations of the industry trends, and by copying their colleagues in the industry. ESN16, who handles an average of sixteen trainees in a year, claimed that the training he provides is tailored to the changing trends of the workplace and, although he didn't have a programmed TNA, he responded to what was taking place in the industry and the technological changes at the workplace. He illustrated this with an example: "when a new model of a car is introduced, as was the case with automatic vehicles, I collaborate with the industry to find out the mechanical details and then I pass this information to my employees. This ensures that we are always abreast of the new technology" (ESN16). He

added that he regularly invites an industry expert to induct his employees to any new technology that is introduced to the market.

Other employers provided the following information:

> "In this business you have to be street wise. I usually spy on what the other fundis are doing and try to be a step ahead. We also poach good workers who can help us with their skills in the training" (ESN2).

> I visit other businesses and gauge the skills that they are offering their trainees. In addition, I go with my eyes open and if I see a car that has special features, then I try to copy them. Sometimes this small phone is used as a camera to capture any interesting vehicle. I especially like 'supped' cars [those with eye catching designs] because they attract these young guys. (ESN11)

> I listen to what the customers are asking for and then train my employees accordingly. For instance, many of my young customers want very loud cars…. Like the Subaru and this requires adjusting the exhaust system. Other customers especially the ladies want special seat covers, which we provide. When one customer suggests something new then I check out with the others and whatever is popular, it is what we give them. (ESN10)

> When the company I was working for retrenched us, a number of us opened our own businesses. We have formed an association of former employees and we have a training partnership where my employees visit their businesses and learn a certain skill that I'm not good at. You see, we were all trained in different specific area, like myself I was only trained to do electricals (sic), another person, only the exhaust system and so on. (ESN6)

The one manager ESN12, who had qualified for a diploma in automotive engineering and was pursuing a degree at the time of study, had a more scientific way of assessing trainees' needs. According to him;

> To keep up with changing technology, I regularly attend refresher courses at the Kenya polytechnic, and also do a lot of research with the internet and also print media. It is not good to handle a vehicle without carrying out proper diagnostic tests because this might lead to even more damage and loss to the owner. Modern vehicles need accurate diagnosis and that is why we have invested in appropriate machines and employ qualified staff. What I learn from the refresher courses I come back here and teach my trainees. (ESN12)

His garage offers training in engine rebuilding, mechanical repairs, computerised diagnostic services like wheel balancing, injector pump repairs, preventive maintenance and panel beating, interior upholstery and spray painting. The researcher was shown around the garage, which had modern and sophisticated machinery; elaborate safety instructions, uniform for the workers and a clear workplace set up.

6.3.1.2 Employees' views of training needs analysis

A large number of employees (34 out of the 57) cited the mismatch of the training offered to the needs of the industry as the major challenge they encountered when they eventually entered the job market. SN39 attributed this to the weak linkages between technical skills, entrepreneurial skills, labour market needs and employable skills, which he recommended TVET addressed in full by for the program to be a preferred choice of training. SN43 argued that the current TVET training is supply-driven and not appropriate to address projected manpower industry needs. In other words, TVET providers provide skills and courses, without accurately predicting if the industry requires such skills.

Fifteen employees blamed TVET's weak and inflexible curriculum for its inability to meet the diverse needs of the industry, with SN40 noting that a large number of the graduates are not appropriately trained to offer what the labour market requires. SN50 advised that there is a need to revise TVET so that it reflects the emerging technology at the workplace, since technology in the MVRSI changes rapidly. According to him, "…whatever we are taught in first year is no longer useful by the third year when we graduate. These colleges need to understand that technology changes very fast and it does not wait for any man" SN50. Furthermore, SN16 recommended the setting up of a feedback mechanism from the industry to help institutions evaluate their training standards. He observed that,

> Since I graduated from the technical institute, no one from the government or the training institution has ever visited me or asked me how I'm doing. How do they ever know if what they trained is useful anymore? We feel let down by the system that should be taking care of our needs. (SN16)

In order for a smooth transition to the work environment, SN14 was of the opinion that,

> …the institutions that train us need to train us on the quality of skills that the jua kali wants. Sometimes what we are taught is geared for big industries, while most of us actually end up here. They should make sure what they teach us can be used at this [pointing to the garage] kind of workplace.

6.3.1.3 Trainees' views of training needs analysis

Trainees were asked if they thought their training was useful and appropriate. All the trainees who took part in the study were satisfied that the training was appropriate for their level of understanding. They observed that most of their lecturers were well versed with theoretical content and the methods applied from the instructional materials available. Learning materials, especially the textbooks, were, however, old and foreign, which made trainees question their

suitability to the modern world of work. Furthermore, respondents in FG2 complained that their practical classes were crowded around one old engine, which they were not allowed to manipulate. In FG2, FG3 and FG4, respondents acknowledged that although their lecturers were conversant with theory, they lacked requisite industrial knowledge and experience that would adequately prepare them (the trainees) for life in the workplace.

FG3 trainees echoed the need to carry out frequent skill needs assessment so that TVET is tailored to meet the changing technological needs. This group observed that they were computer savvy and they wished their trainers were too. This they felt would inform them on what needed in the market fast instead of waiting for curriculum reviews. FG4 further noted that although most potential trainees were aware of the courses offered in TVET institutions, they would prefer courses of shorter duration (1–3 months) if available, but that at present few are. The types of courses they would like to attend are:

- skills relating to an identified economic opportunity (e.g. motor vehicle training)

- financial management

- entrepreneurship and marketing

- industrial rules and regulations (e.g. contracting)

- interpersonal skills.

FG2 recommended that trainees should be involved in needs assessments by being asked what was important to them through forums such as the present discussion group that was taking place. The FG2 trainees asserted that focus group discussions helped them to articulate their needs, which might then be addressed in the curriculum design and subsequent implementation. Other trainees in the same group preferred the use of surveys that ensured anonymity of the respondents.

6.3.1.4 Trainers' views of training needs analysis

Six of the eight trainers interviewed observed that the MVRSI curriculum was not up-to date and needed urgent review to address the emerging technological and workplace changes in the industry. Only two, who were also heads of institutions, were ever involved in the curriculum development. Even they, however, conceded that although they understood the world's industrial trends, they did not have the power to decide on what to include in the revision, but relied on KIE for guidance. One of these, TSN3 observed that

> … since the focus of the training is employment, the skills should be linked to the job market to ensure that there is no mismatch among the training and competencies required in the labour market. To this end, the government ought to conduct a skills analysis that will guide the institutions on what to offer.

When the trainers were asked what needed to be changed urgently, seven cited the training facilities, especially the motor vehicle engines used for practical classes, while one was emphatic that the instructors' in-service training is the priority. Further, the centralised curriculum development faces implementation challenges in different parts of the country due to the country's diversity in geographical, social and economic conditions. TSN6 and TSN7 expressed the need for a curriculum suitable for specific regions—for example economic activities like animal transport in the arid areas of northern Kenya and water transport in the lake region of Western Kenya. These two trainers also identified the lack of cross-regional representation in the identification of training objectives as a gap that ought to be filled. TSN6 further observed that

> As things stand now, the curriculum is taught as if all areas have the same needs. Yet this is not true. For instance there is only one car in Lamu [an island town in the Kenyan coast] town—that of the district commissioner. What is the use of teaching people from this region automotive engineering skills that they are likely never to use? Their main modes of transport are donkeys and perhaps donkey carts should be given more prominence.

Trainers further noted that their ministry already had well-formulated and researched, policy documents such as *Skills Gap Analysis for Graduates of Youth Polytechnics, Vocational Training Centres and Out of School Youths (UNDP, 2010)*, *A rapid appraisal on the status of technical and vocational education and training (TVET) in Kenya (GoK, 2003b)*, and *The National MSE Baseline Survey (1999)*. If implemented, these policies would lead to improved training. However, TSN4 and TSN5 observed that although most of these documents would make a positive change, they were drafted at ministry headquarters without authors being fully cognisant of the situation on the ground. According to TSN4 and TSN5, if there were more consultation, the documents would be more inclusive and have a bigger impact on the training. These discrepancies between policy-makers and policy-implementers were accentuated by Barasa and Kaabwe (2001, p. 229): "there is a danger of widening the gap between policy and practice in contexts where policies and strategies for economic and educational development are based on impressionistic assumptions rather than empirical assessment of reality".

On the question of what criteria the institutions based their course admissions on, TSN1 observed that the physical facilities dictate how many trainees each subject area will admit. TSN1 acknowledged that this is not the best way to carry out enrolments, adding that they should be

based on the industrial demands and not just the capacity of the institutions to train. According to TSN1, "this is why we have hundreds of TVET graduates tarmacking [looking for jobs], while in some other occupations there is gross inadequacy of qualified workers". In a related study, Kagaari (2007) observed that universities in Uganda select their students based on the right grades in the subject being studied, and this was the cause of the curriculum not meeting the industry demands.

6.3.1.5 Education officers' views of training needs analysis

The education officials were emphatic that a TNA is always done before any new design of the TVET curriculum, although the adequacy of the TNA was not always sufficient. EO4 listed those involved in the skill needs assessment as representatives from the industry organisations, MoHEST quality assurance officers and the training institutions. The capacity of the institutions (their equipment and other facilities), the human resource capital and availability, and global trends are assessed by subject panels that are composed of education officials, trainers and some industrial experts who verify what needs are to be catered for. The KIE strategic plan noted that members of each subject panel were drawn from experienced subject teachers, quality assurance and standards officers, representatives from the Kenya National Examinations Council (KNEC), the Kenya National Union of Teachers (KNUT) and other stakeholders (KIE, 2006). However, an official of the Kenya Association of Technical Training Institutions (KATTI), who was also a head of one institution involved in this study, noted that the industry tended to send generalists such as training managers and human resources officers who did not have the capacity to participate meaningfully in the technical TVET curriculum deliberations. The KATTI official observed that ". . . lack of participation in curriculum design by technical plant managers, engineers, technicians and other professionals involved in research, design, production and plant maintenance denies the syllabi variable inputs from the specialists" (TSN2).

EO4 admitted that, although a needs assessment is a crucial stage in the curriculum development process, the KIE does not carry it out often enough due to inadequate funding. Low funding did not allow for frequent curriculum reviews in line with the technological changes taking place at the global level. Furthermore, KIE is not able to attract or retain experts with technical competence due to poor remuneration (KIE, 2006). To deal with this problem, the institute has introduced a modular-based curriculum that allows for ease of review of any of its components without needing to overhaul the total curriculum.

EO2 indicated that MoHEST occasionally undertook analyses that led to new blueprints or

policies. For example, in 2003 there was the policy document, *A rapid appraisal on the status of technical and vocational education and training (TVET) in Kenya* (2003b) that formed the basis of the TVET investment program in the Kenya Education Sector Support Programme (KESSEP) document. In addition, EO1 explained that this appraisal involved a multi-sector task force led by a university professor in the faculty of science and technology and included KEPSA, university researchers and public service officers. Data gathered from these players were then scrutinised through workshops that brought together all key actors in the skill use sectors. The workshops provided input into the formulation of the policy paper on science and technology.

6.3.2   Findings: Training objectives

In a T&D model, curriculum objectives are expected to address training needs identified in the analysis phase by detailing what is to be taught, to whom, time allocation, teaching methods, learning materials and the physical facilities required. In this section an examination of national training objectives is made through data gathered from the stakeholders in the MVRSI in Kenya.

6.3.2.1 Education officers' views of training objectives

The four education officers who participated in this study offered very rich data on the area of training objectives, a technical area, which three of them had been actively involved. EO2 revealed that the national training objectives are drafted by experts at the MoHEST headquarters through the advice of KIE and are further exemplified in the national curriculum designed for use throughout the country by all training institutions, both private and public. In addition, EO3 specified that the curriculum and examinations for the trade courses are designed and tested by the Directorate of Industrial Training (DIT); the craft and diploma courses are designed by the KIE and examined by the KNEC whereas universities manage their own courses and examination. Most of the private colleges follow the curriculum designed by the KIE, but some follow foreign curricula and exams. In theory, one can move from the artisan level to the highest technologist level through this system. There are two curricula on offer at the TVET institutions: the old curriculum and the new curriculum. The former trains the workers to enter the job market, whereas the latter is designed for advancement to the next level (GoK, 2008b).

EO4 contended that KIE is delegated to design the TVET curriculum, which should contain information on content, objectives, skills, concepts, methodology, assessment and the duration of the course. In addition emerging issues such as HIV and AIDS, drugs and substance abuse, gender parity and environmental conservation are mainstreamed appropriately into the subject. On

TVET, EO4 observed that;

> Regarding the TVET level, the current curriculum designs are outdated. Part of the reason is due to over reliance on donors for support in this area. When donor funds are not forthcoming, the program stalls. The curriculum framework for TVET has also remained rigid, concentrating only on institution-based, full-time training or long course programmes. Moreover, the curriculum structure does not accommodate the entry of graduates from other educational programme components such as non-formal, industrial training, on-the-job training, and trade tests, and even horizontal movement from one trade to an allied trade. In addition, the scope of the curriculum does not cover as diverse range of skills as it should due to the fact that the Kenya National Occupational Classification and Standards KNOCS) has not recognized some areas such as indigenous technologies and crafts like basket weaving which is popular among the Kamba, pottery among the Kisii, wood carving among the Luhya just to name a few.

With KIE conceding that the curriculum was not adequate, the funding being low and the body's inability to retain skilled personnel, the researcher sought to investigate syllabi development. EO4 referred the researcher to the KIE strategic plan, which contained the following information.

> Syllabus development is a specialised field that requires highly qualified and specialised personnel. However, the posting of curriculum developers to KIE is not based on their qualifications or experience in this area. Even when they are recruited and gain experience on the job, there is no structured training programme to develop their research and curriculum skills. As the national centre for educational research and curriculum development, KIE professional staff are supposed to be trained to the highest level, but even when they are recruited and trained, there is a lack of a structured program to develop their research and curriculum development skills. (KIE, 2006)

Another related problem identified in the KIE strategic plan document, availed from the EO4, was that the syllabi development was done through a panel system that is unsuitable for TVET because it takes too long to respond to the rapid changes in the industry (KIE, 2006). In addition, the researcher observed that the training institutions used aluminium and plastic materials while the MSE were using traditional materials such as steel and timber for training and production of goods.

The researcher was interested in the other types of TVET curricula offered in Kenya and their adequacy in the light of the country's needs. According to EO4, there exist other curricula in the country, which are being implemented at various levels of education and training, despite curriculum design and support materials being the responsibility of KIE. In some instances, some institutions (predominantly private ones) develop and implement their own curricula without reference to the KIE, yet the importance of a standardised curriculum in the development and maintenance of standards in training, evaluation and certification cannot be overemphasised (KIE, 2006).

EO3 added that in the TVET sub-sector, there are different curricula with varying training durations and entry requirements. Some institutions offer diploma programs for three months, others six months, and yet others one year, all of which are a wide variance from the two years recommended by KIE. This situation is attributed to the lack of a legal authority to govern issues that deal with curriculum development in the country. Specifically, the MVRSI training takes two years for artisans and craftsmen and three years for diploma holders.

6.3.2.2 Trainers views of training objectives

Trainers expressed their frustration with the TVET curriculum for the MVRSI, which they felt was not up to standard. TSN8, a trainer at a youth polytechnic (YP), explained thus:

> Some institutions are still using the old industrial skills curricula. It is difficult to comprehend how a country that hopes to be industrialized by the year 2030 is still using a curriculum developed in the 1980s. Surely, the kind of cars and the technology at that time has changed significantly and the curriculum should reflect this. The curriculum should be revised every five years to ensure its relevancy.

In his institution TSN4 said the curriculum for craft and diploma courses designed in 1992 was in use until 2008, when the institution implemented the revised curriculum in 2009. TSN4 noted that some institutions were still using the 1992 curriculum, since the 2008 version was being introduced at different times in various training institutions. He observed that the 1992 curriculum was obsolete and did not address the present technology.

TSN2 confided that in Kenya politics takes centre stage in the development of education, as exemplified in the introduction of the 8-4-4 education cycle (8 years in primary school, 4 years in secondary school and 4 years in university), which replaced the 7-6-3 cycle. He stated that 8-4-4 was implemented through a populist pronouncement by the second president in 1978, without conducting a comprehensive needs analysis or strategising on the implementation of such an ambitious program. Parents were advised to build training workshops, and teachers were asked to start implementing the new curriculum without minimum facilities such as textbooks and appropriate laboratories. TSN2 observed that the 8-4-4 curriculum had been altered so much from its original state that most facilities set up to support it had gone to waste, and its graduates were seen as guinea pigs, who couldn't carry out the needed government and industrial reforms. TSN4 observed that if proper objectives had been designed and communicated to all stakeholders, the 8-4-4 could have been more effective and perhaps would have transformed the TVET sub-sector.

6.3.2.3 Employers' views of training objectives

Although most of the employers had been involved in informal training, they expressed frustration at their lack of knowledge and experience in curriculum design and objective formulation. On being asked how they trained without any kind of curriculum, they cited their experience as the basis for assessing the needs and competency of their trainees. In the ESN6 manager's office however, the researcher noticed a poster on the wall with the following points:

Essential skills of a competent auto mechanic:

1. *Diagnostic Abilities:* A good mechanic is able to diagnose a vehicle's problem.
2. *An Array of Integrated Skills*: A competent car mechanic should also have mastery over a wide variety of integrated skills, such as the electrical system, fuel system, and the air conditioning system. Computer skills are also needed in the day-to-day operations, and are as much a part of the tool box as wrenches. As knowledge is gained, it becomes easier to move into higher paying positions.
3. *The Ability to Stay Prepared*. Preparation is a key ingredient in the auto vehicle sector, and integrates the use of computers that assist to adapt to new technology.
4. *The Ability to Teach Others*. Being able to communicate effectively using modern devices like computers and the internet is key to the success of all businesses.
5. *Career Longevity.* Around the fifth year, many auto mechanics have been exposed to a variety of problems, and have gained enough experience to become specialists. Continual training is ongoing. Ten years out, the most experienced and ambitious automotive mechanics may open their own shops, and those working at dealerships may have risen to supervisory positions.

On drawing attention to the poster ESN12 confided that he got the information from the internet and he used the five points as a guide when training. He quipped "Probably that is what you scholars call objectives".

The employer organisation KEPSA stated that it was in the process of developing a training manual for different trades in the informal sector training. In its website, KEPSA recommends that the government ought to popularise vocational education by regularly holding stakeholders' consultative meetings to communicate and assess the training goals. None of the business employers, or their employees who took part in this study, were conversant with the national TVET training goals.

6.3.2.4 Trainees' views of training objectives

Training objectives that address industrial attachments, internships and field study take into consideration the demands of the training outcomes. FG2, FG3 and FG4 specified that if the authorities wanted to improve TVET training they should actively engage the trainees who had completed their industrial attachments (i.e. workplace placements). According to the trainees, the 22 weeks allocated for attachment was inadequate for meaningful industrial practices. One member of FG2 revealed that it took four weeks to find a garage for the industrial attachment and another two to start work, which significantly shortened the practical work duration. Members of FG3 proposed that industrial attachment need to be formalised through legislating appropriate policies and then communicated to all the stakeholders through formulation of objectives to guide the curriculum design and implementation. According to FG3, clear communicated goals and objectives would assist in program ownership and guide action where necessary. For example, business owners need to know the direction that TVET is taking and the benefits of taking on learners for industrial training.

The researcher was interested to find out the personal objectives that the trainees had for joining the mechanics course. In the focus group discussions, trainees gave the following answers:

> Some people join because they dropped out of school due to some reasons like fees, due to parent's death, lack of sponsors and they feel that if they can get a chance they can perform for them to improve their living standards. (FG4)

> Some of us join courses with a drive in mind to employ ourselves in future. Some of our parents refuse us to join the course immediately after standard eight coz we are too small in size to be self-employed. (FG4)

> I joined the mechanics diploma course because I wanted to get quality skills for me to able to compete fully with others in the market, and this will prepare me to build self-confidence and finally start my own business where I can employ myself and utilise the business skills I have learnt here. (FG2)

6.4   Findings: Training activities

In this section is a presentation of the stakeholders' views of the second phase of training and development (T&D)—the training activities in Kenya's MVRSI. This phase involves the activities carried out in the curriculum implementation that involve designing the training and using different methods to achieve stated objectives. The aim was to obtain different stakeholders' assessments on how training activities enhance or derail the acquisition of job-related skills and competences of TVET graduates in the motor vehicle repair industry. There were general areas that most stakeholders were concerned with: quality of the training institutions, training materials

and instruction guides, trainers, trainees, methods of skill acquisition and sociopolitical factors. In addition, there were specific areas that different stakeholders deemed important.

6.4.1 Employers' views on training activities

The employer's views are grouped into the topic areas that were most referred to by the respondents: the training institution locations, skills, training methods, training equipment, formal and informal training quality, the quality of the trainers and instructors, and other training offerings. These areas are discussed in the following section.

Training institutions locations: The location of training institutions is an issue raised by ESN17 and ESN8 who were concerned with the imbalance between rural and urban areas, attributing this to TVET's heavy dependence on infrastructures, such as electricity, water, good transport and communication networks, which are found in towns or major cities. The rural population had fewer opportunities to access the TVET facilities, hence the continuing under-development. ESN5 recommended the establishment of model TVET institutions (centres of excellence) in each county (particularly in rural or marginalised areas) so that other institutions could emulate them. According to ESN4, "concentrating the learning institutions in the urban centres is a human rights abuse, because it denies the rural people majority of whom are poor a chance to gain necessary skills". In addition, ESN17 noted that the youth polytechnics that are spread throughout the rural areas have minimal and dilapidated facilities that cannot offer any meaningful training to those who need it most".

Skills: Employers acknowledged that basic literacy was an integral part of their business, with seven out of 19 using it as a measure to determine the suitability of a candidate during interviews. ESN15 observed that those technical skills that were important for the workplace would most likely become outdated with time; thus, there is a need for employees to move away from being skill-based or task focused to becoming more innovative and adaptable to new technologies. TVET was founded on solid principles, which enabled the graduates to learn and understand new technologies fast (ESN1, ESN13). The TVET graduates were notably better than those who had not undergone formal training since they followed acceptable principles and had a higher ability to absorb new innovations in a relatively short period of time (ESN13, ESN8).

A majority of the employers did not see the need to upgrade their skills at the TVET institutions because as ESN3 observed, ". . . the institutions do not have much to offer us. We prefer to visit big companies like Toyota Kenya to learn new skills." ESN16 added that if the institutions could

have short courses in specific areas, he would be happy to attend. However, there were some employers who took retraining very seriously. In section 6.3.1, ESN 12 detailed how he took refresher courses at the Technical University of Kenya to upgrade his skills. ESN6 also attended courses to help him manage his business,

> I realised that although there was fast growth in my business, I was not giving it my all because I was everything: the manager, the treasurer, the entrepreneur and even the secretary. So in 2002, I enrolled at the KIM [Kenya Institute of Management] for a diploma in business management. Two years later, I went back to KIM for a certificate course in entrepreneurship. (ESN6)

ESN17 revealed that he too was keen to hone his skills, "Recently, I enrolled for a Ksh350, 000 [$4,375] six month online course with the Penn Foster Career School [which is a US distance education vocational school that was founded in 1890] to upgrade my skills in the automatic transmission gear box because many vehicles now have automatic transmission".

Training methods: Most of the employers (73 per cent) complained that TVET graduates, usually those with the craft certificates, were more theoretical than practical in their approach to work. ESN3 observed that;

> Job seekers from the TVET institutions have very impressive documents, a whole string of qualifications from their institutions. Yet when given a chance to deliver they are very disappointing. I employed a diploma graduate the other day and when I asked him to fix a gear box he had lots of trouble but had fantastic theories. Customers want a fundi [someone with skills] and not an engineer with theories.

The graduates required further training to gain the practical skills and competencies necessary in the service and repair motor service. ESN2 noted that the graduates needed to be transformed from a theoretical outlook to appreciate reality, especially as it concerns the challenges of 'fixing' modern vehicle models. The employer noted that:

> The worst part is when a customer has left his car and we have negotiated payments, then we discover the employee is not competent at all. If it's a repair job, the original minor problem may have been made very big with unmanageable issues and you wish he could just restore the status quo and let you move to another fundi. (ESN2)

In his garage, ESN7 observed that most of the vehicles brought for service were either the rough road 4-wheel drive vehicles or modern models that require additional training for the TVET graduates, since they were not exposed to them during training.

Formal training: Of the 19 employers involved in this study, 17 (89 per cent) agreed that the TVET graduates had more superior special skills and attributes other than technical competences

that employers value at the actual work place, compared to their colleagues who had never attended a formalised course. These skills and attributes include: basic arithmetic, decision making, reading, problem solving, positive work attitude, dependability, team work and other affective skills and traits. One employer, ESN7, noted that TVET inculcates a sense of discipline in the trainees like strict adherence to health and safety precautions, time management, and record keeping; factors that were absent in the informally trained employees. Some of the general words and phrases employers used to describe the formal TVET graduates are that they:

- " are more polite and gentlemanly"
- "own up to their mistakes and inabilities"
- " acknowledge and appreciate the role of public relations"
- "have bookkeeping skills"
- "are enthusiastic"
- "are flexible"
- "show willingness to learn new ideas when doing their work".

The inability of the trainees to carry out practical assignments to the satisfaction of the employers dimmed these positive attributes. This is because even as the employers enumerated them they also counteracted them with the lack of practical and technical skills, which they viewed as the most important aspects of the repair business. Indeed ESN2 summed up thus: "What the jua kali needs is a whole person [sic]. One who is able to multi task and improvise the tools that we cannot afford to buy."

Informal training: All the employers in this study indicated that they informally trained a large number of workers in their garages. The training was largely unstructured, unregulated and had no time limit. Delivery of informal training was dependent on the experience, skills and competency of the supervisor (mentor or trainer), qualities that were inherent in the trainers, and which formed the marketing element of most firms. Most owners (68 per cent) indicated that the training was done through attaching a new comer to an experienced worker who gave feedback on the trainee's level of competency through gauging him/her against set standards. The graduates progressively moved from the level of 'spanner boy' to that of a competent mechanic who would be trusted to work on his own (ESN8). Informally trained mechanics did not acquire any form of certification but EO1 informed the researcher that workers who felt competent enough could acquire a certificate by taking a grade test through the Directorate of Industrial Training (DIT).

Equipment: Effective training is largely dependent on a lot of physical facilities, concentrating on the use of emerging modern and relevant equipment to fit in with the ever-changing world of work and technological inventions. Out of the 19 employers interviewed, 14 (74 per cent) blamed the poor, obsolete equipment used, and the graduates' non-compliance with modern technology, noting that the graduates could not operate and repair vehicles with electronic stabilising systems, computer-monitored engines, keyless ignition and entry, global positioning systems (GPS), and other modern technologies. Employers contended that TVET institutions ideally ought to be at the fore-front in advanced technology, which they could transfer to the garages, but during this study the situation was revealed to be vice versa.

Quality of trainers: Most employers blamed the quality of TVET graduates on the kind of trainers, who they observed did not have adequate industrial knowledge. The employers offered various recommendations to deal with inadequate trainers. For example, ESN9 recommended that instead of relying on trainers who may have undergone similar training, but without any practical knowledge, TVET should seek the services of employees in the industry who undertake day-to-day vehicle servicing for clients, and ESN10 added that experienced professionals in the industry should be invited to 'train' the students on new technologies. ESN1 observed that TVET needs to establish a prescribed and strong link between the labour market and the institutions so that the micro and small enterprise (MSE) sector could be used for practical training of the TVET trainees at a fee (as an alternative to upgrading training facilities in TVET institutions).

The observations made by employers seem to have prompted the Kenya Polytechnic University College (KPUC) which is now the Technical University to collaborate with the Kenya Association of Manufacturers (KAM) to improve industrial attachments for the students. According to a media report attributed to the KAM chairman the essence of the partnership was to create a platform for attachment for both students and lecturers from the institution in any of the 700 KAM affiliate companies. The chairman added that it was going to be a mutually beneficial cycle of sustained industrial growth and increased development of higher quality technical work force. Accordingly:

> . . . the training is two-pronged so that as the students' technical skills are honed, they are also taught entrepreneurial skills that could be a passport into self-employment. In addition, the joint programme will offer appropriate training and other capacity building initiatives that will enhance the success of SMEs. (Kairu, 2013 p. 11)

Other training offerings: Due to the perceived inadequacy of training providers to incorporate all potential trainees, employer bodies like Kenya Private Sector Alliance (KEPSA) had taken up

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skills' training to address the inadequacy. Information gathered from the official website of KEPSA, www.kepsa.or.ke, indicated that the alliance, in collaboration with the Kenya Youth Empowerment Project and Ministry of Youth Affairs launched a World Bank–funded internship and training program in December 2010 at an estimated cost of US$60 million. The targeted population was youths aged between 15 and 29 years who were graduates of Kenya Certificate of Primary Education (KCPE) and had spent at least one year out of the school or work environment. This internship was planned to last for between 4–6 months, with half of that time spent at the workplace; the remaining time was to be spent training with a third party trainer. Each participant was to receive Ksh 6,000 (US$75) per month, with employers being paid a monthly reimbursement of Ksh 3,000 (US$37.5) for each intern they trained. The announcement below gathered from the same website indicates that KEPSA also targets the employers in the industry.

> The 2nd round of Master Craftsmen training kicks off on the 4th to the 14th April 2011. A total of 60 Master Craftsmen have been invited for the training ... The objective of the training is to upgrade the skills of the employers in the informal sector to be able to provide quality mentoring and guidance for the interns. (KEPSA, 2010)

Employers and employer bodies carry out other trainings to supplement what they view as the gaps in skills training. However this is inconsistent and targets specific cohorts of trainees as a short term measure to address problems in a particular skill area.

6.4.2 *Employees' views on training activities.*

Most of TVET graduates end up as employees in MSE and their views were deemed vital for this study. The views were collected from both the formally trained TVET and the informally trained employees who worked side by side in the MSE. Their views are divided into six sections namely: training institutions, trainers, reasons for taking up training, gender distribution and the informal training, and the quality of skills.

The 19 businesses involved in this study employed a total of 148 workers, of whom 40 (27 per cent) were formally trained and 108 (73 per cent), were informally trained. Of the 57 employees who took part in this research, 29 were informally trained, and 28 were formally trained at different levels. This almost equal ratio was attributed to the sampling procedures used in this study, which have been expounded in the methodology section in Chapter 5. Ninety-two per cent of the informally trained employees cited cost of training as the primary motivation in their choice, while eight per cent conceded that they found the formal education challenging.

Training institutions: Most formally trained employees complained of insufficient practical skills

acquired from their institutions, which contributed to their low self–confidence when they eventually entered the workplace. They noted that their institutions lacked modern and adequate technology to equip them for the outside world; thus they had to undergo rigorous practical training in the workplace to keep pace with demands of the industry.

In Chapter 2 it was revealed that in Kenya there exist many vocational private training providers, some of whom are not legally registered. This situation led SN46 to observe that the public perception that formal TVET-trained graduates were 'half–baked' and lacking in the practical skills was a result of a proliferation of 'bogus' (unregistered and unaccredited) training institutions. He recommended that formal TVET ought to be assigned only to accredited training providers (both public and private). In addition, the frequency of government inspection needed to be increased to ensure that facilities were up to date and the instructors were adequately equipped with the required skills to necessitate quality training.

Trainers: In addition to inadequate equipment at the TVET institutions, employees who had undergone formal training blamed their trainers who lacked the necessary industry–based technological skills. This affected the quality and competency of trainees' skills acquisition, impacting negatively in their performance at the workplace. SN40 noted that during his training, he felt that his knowledge of motor vehicles was more advanced than his trainers because he had access to many different models of cars in his father's garage. He was constantly in conflict with his trainers because he could point out areas of their inadequacy.

Reasons for MVRSI training: Employees gave various reasons for taking up training for the MVRSI, 32 per cent indicated they had not met the university admission entry points, 52 per cent had considered the cost of training, 12 per cent had a passion and admiration for the trade, and 4 per cent were influenced by relatives. SN38 noted that "I did not meet the requirements to join university and undertake a degree in engineering and, as such, the next course of action was to start from a lower level with a view to advancing my education". Of those who took up the course due to interest, SN27 described his long path to becoming a qualified mechanic:

> After leaving secondary school, I did manual work in various towns before finding employment as a turn boy (loader) on one of the heavy commercial vehicles that transported timber to Pan African Paper Mills, Webuye. As a turn boy, I closely observed the maintenance of the fleet of vehicles on which I worked until I could offer assistance. On closure of the paper mills, I joined Owaji Motor Services in Mumias, where my skills were honed until I became a qualified mechanic. (SN27)

Gender: In Kenya, gender stereotyping affects employability of women in jobs considered a domain for men, such as motor vehicle mechanics. A female respondent (SN53) described her loneliness in the profession, adding that certain courses, like automotive courses, were considered a preserve of men and at times she felt out of place on such 'unfamiliar ground'. ESN9 described a scenario where a male customer, on seeing that a young woman was the mechanic, refused to have her repair his car, arguing that she ought to be doing more female chores. He indicated that he did not trust her abilities to do mechanical work, despite the fact that she was one of the most competent workers in the garage. The employer quipped that when the owner left the car at the garage, the girl actually did the repair work to the satisfaction of the owner. SN23 talked of constant harassment and ridicule by both colleagues and members of the public, adding that "it's all in a days' work". She explained that if she made a mistake it was made to look like "the original sin", yet when her male colleagues made the same mistake it was taken as normal human error. Contributing factors to this situation are imbalances and inaccessibility concerning training, retrogressive cultural practices (such as early marriages that bar women from achieving their potential), and inadequate support from the labour industry (Lutta-Mukhebi, 2004).

Informal training: The employees' assessment of informal training was varied. Those who trained informally cited the shorter training duration, the appropriate occupation-specific skills gained, the affordability of the training (they did not have to pay for the training, instead they performed manual tasks without pay), and less rigid curriculum. SN16 recounted his journey to the informal training thus:

> I completed secondary school in 1995 and did not meet the requirements for university admission. Having been born to a poor family and being the first born, I had to do various manual jobs in the local town, including "Boda boda" (bicycle taxi operator) for two years. I was encouraged by friends to join them at the garages, where, at the end of the day, I made a higher income and decided to stick to motor vehicle maintenance. (SN16)

Employees, both formally and informally trained, criticised informal training for its over-reliance on skill acquisition without the relevant theory or knowledge base. A number of informally trained employees indicated that they felt lost in the academic aspects of their trade; they performed as 'robots' on the vehicles and could not adequately explain their actions SN1, SN34 and SN54 wished that they had a chance to train in a formal setting. The lack of a structure in their training was attributed to a lack of a syllabus and the nature of the on-the-job instruction. This kind of training often leads to exploitation of the employee, since despite their competence; they may be treated as learners due to the lack of adequate assessment or evaluation. On the other hand, there were instances where the trainee was deemed competent, yet still lacked necessary

understanding of the tasks at hand, with huge cost implications for the business.

Skills: SN22 and SN28 recommended that the TVET training should test proficiency rather than theory, whereby trainees demonstrate their applied aptitudes instead of following the strictly examination and certification methods. To this end, nine of 25 formally trained employees commented that training for high-quality skills and proficiencies requires suitable equipment and tools, sufficient training materials, and adequate relevant practice by the trainees to improve the quality of TVET training.

According to SN21, informally trained employees possessed inadequate ethical, interpersonal and business skills that were attained by formal TVET training. Informally trained employees also lacked workplace organisation and discipline, for instance strict adherence to health and safety precautions (SN14). Wachira, Root and Olima (2009) observed that because informal training was achieved through learning by doing and instruction was received from trainers who lacked both pedagogy and certified trade skills, learning takes place by coincidence rather than by design; resulting in inconsistencies in qualifications and competencies within the same profession because of limited standardisation of both the method of skilling and the graduate aptitude.

6.4.3   Trainers' views on training activities.

TVET institution's trainers are central to curriculum implementation and they are a primary focus of the second phase of a T&D model. The researcher sought the trainers' views on this phase and found the following topics to be of importance: types of curriculum, practical skills training, examinations, training equipment, training of trainers, types of trainees, program accessibility and sociopolitical factors. These areas are discussed below.

Types of curriculum: In Chapter 2 it was revealed that in the YPs, students were taught using two curricula: the artisan and the trade test. According to TSN8, the artisan curriculum was not popular with most students and instructors who found it more challenging, inflexible, theoretical, and, less organised than the preferred government trade test curriculum. The artisan course was also "unfamiliar to the instructors who went through the trade test route" (TSN8). Furthermore, TSN7 observed that the YPs would require TSC-posted instructors and more equipment to be able to register good passes in the two-year artisan course. Use of TSC-trained personnel to train artisan courses would enable those who qualify to upgrade to a craft course. TSN7 added that, under the circumstances of the time, it would have been more realistic to create a situation where

artisans could rise to the master artisan level, instead of assuming that they would want to advance to craftsmanship and ultimately to technicians and technologists.

TSN2, who was a trainer in an institute of technology (IT), detailed that craft courses were designed to last for three years but once again the emphasis was laid on teaching the recommended 3000 contact hours instead of the actual calendar years. TSN1 admitted that although these were the minimum entry levels, the popular courses attracted trainees with higher marks, in particular those who had qualified for university but did not get admission due to limited places (the minimum entry requirement to university was C+, but only those with B+ and above managed to gain admission to the public universities). Table 6.5 shows the entry requirements for ISN1.

Table 6.5   Certificate entry requirements

Overall KCSE mean grade of D+(plus)
D (plain) for Mathematics, Physics or Physical Sciences—for engineering courses.
D+ in either Home Sciences, Biology or Chemistry—for food and beverage, and clothing technology
D (plain) in English or Commerce—for business courses

Source: ISN1 (2011)

Diploma courses were offered in the Technical universities, national polytechnics (NPs), selected ITs and TTIs where the courses lasted for three years, or 3000 contact hours. The entry requirements for the diploma technical courses are shown in Table 6.6.

Table 6.6   Diploma entry requirements

Overall KCSE mean grade of C-(minus) for regular courses
Overall KCSE mean grade of C for modular courses
A pass in Home Science, Biology or Chemistry—for food and beverage, and clothing technology courses
A pass in Mathematics, Physics or Physical Science—for engineering courses
A pass in English, Kiswahili or Commerce—for secretarial, marketing, business administration, cooperative supplies management and human resource management courses.
A pass in English and Mathematics—for information technology courses

Source: ISN3

Specifically for the department of automotive engineering, the entry requirements for ISN3 are shown in Table 6.7.

Table 6.7   Department of automotive engineering entry requirements

Course	Minimum Entry Requirements
Craft certificate in Motor Vehicle Mechanics	Overall mean grade C Grade C in English, Physics and Mathematics
Advanced Craft certificate in Motor Vehicle Mechanics	Overall mean grade C Grade C in English, Physics and Mathematics Craft certificate in Motor Vehicle Mechanics.
Craft certificate in Motor Vehicle Electricals	Overall mean grade C- Grade C in English, Physics and Mathematics
Advanced Craft certificate in Motor Vehicle Electricals	Craft certificate in Motor Vehicle Electricals
Diploma in Automotive Engineering option	Mean Grade C, Grade C in English, Physics and Mathematics

Source: ISN3 (2011)

Practical skills: TSN4 noted that for artisan, craft and diploma courses, industrial attachment (work experience) was expected to take an equivalent of 22 weeks (660 hours) of the three-year programs. However, a substantial amount of this time was lost as the trainees searched for a

business willing to take them on a placement. TSN5 informed the researcher that all institutions were expected to have an Industrial Liaison Officer (ILO) to coordinate industrial attachment. The role of the ILO was hampered by an industry that was sceptical about the ability of TVET trainees, and the officer's limited budget.

Examination: Regarding the examination results in one institution, TSN3 revealed that more than half of the motor vehicle candidates had failed the practical tests in ISN2, which the trainers attributed to inadequate or outdated machines (in one institution there was only one engine shared amongst 17 trainees).The trainers argued that the modern machines were very expensive and unaffordable, posing a serious challenge for graduates when they were eventually absorbed in the industry. TSN7 summed up the prevailing circumstances thus: "under-investment in skill training for TVET institutions had resulted in understaffing, lack of proper workshops and tools, leading to low-quality training that was not synchronised with what the labour market or local livelihoods required". The result was that graduates of TVET institutions tended to get excluded from the world of work because they lacked productive skills.

The examination results availed from ISN1 and presented in Table 6.5 and 6.6 compares the performance of the theory papers and the practical papers. On probing why they had pinned those two tables adjacent to one another on the noticeboard, TSN5 informed the researcher that it was their way of communicating to the institution's Board of Governors (BoG), their frustration with inadequate training facilities. The tables indicate that the pass rate was quite high (89 per cent) in the theory papers, while about 30 per cent of the students failed the practical test. TSN6, the trainer argued that when the students fail, it is always blamed on the teachers, but as the results show the trainers can deliver good results with improved facilities.

Table 6.8   KNEC theoretical exam for 2006 in ISN3

Course	Total number of candidates	Distinction	Credit	Pass	Referral
Diploma in Automotive Engineering.	37	7	12	16	2
Craft certificate in motor Vehicle Mechanics	34	12	10	8	4
Craft – Motor Vehicle Mechanics	35	6	11	13	5
Technician Diploma in Motor Vehicle Systems	41	4	21	13	3
Diploma in Motor Vehicle Systems	42	3	24	10	5
Technician Cert in Motor Vehicle Systems	38	2	18	12	6
Panel Beating & Spray Painting	47	9	19	11	8
Artisan – Motor Vehicle Mechanics	43	8	21	12	2
Sub-Total	**317**	**51**	**136**	**95**	**35**

Table 6.9   KNEC results for 2006 in ISN3

Course	Total number of candidates	Distinction	Credit	Pass	Referral
Diploma in Automotive Engineering.	37	1	13	9	14
Craft certificate in motor Vehicle Mechanics	34	0	11	8	15
Craft – Motor Vehicle Mechanics	35	2	12	10	11
Technician Diploma in Motor Vehicle Systems	41	2	8	14	17
Diploma in Motor Vehicle Systems	42	2	13	15	12
Technician Cert in Motor Vehicle Systems	38	1	12	16	9
Panel Beating & Spray Painting	47	5	18	14	10
Artisan – Motor Vehicle Mechanics	43	2	13	17	11
Sub-Total	**317**	**15**	**100**	**103**	**99**

Training resources required: The ISN1 manager observed that the MVRSI sector required massive input in terms of resources (financial, material and human) from the government and other stakeholders; but in Kenya, this was a challenge due to competing demand from other sectors. TSN4 added that although the TVET policies had well-thought-out statements, the lack of adequate resources had a negative impact on the implementation of the policies, meaning that the TVET policies did not lead to poverty reduction as intended. Yet the mission statement below, which was taken from a brochure of ISN3 shows that the institutions know what they need to do to produce the employees that the industry requires

> The department has courses and modular skill training offered by qualified Staff in response to changing technology, job market and career needs. This is done through harmoniously imparting technology (theory), practice, research skills and Hands-On – The-Art practicum training to the learner in an interactive environment. We are here to shape the learners destiny and to be a change in the world for the better, keeping abreast with the changing technological trends towards the service to humanity. (ISN3)

Training of trainers: Trainers complained of getting little or no retraining and regular updates on industrial trends. The head of ISN2 observed that trainers lacked necessary industry-based technological skills that can be updated through industrial attachment, adding that the Kenya

Technical Teachers College (KTTC) had shifted from its original mandate as a producer of trainers and had started competing with NPs by offering similar programs. He noted that:

> Too much time is spent on science and technology–based curricula at the expense of other areas such as crucial transformative pedagogy. The inadequate trained VET personnel and the inflexible curriculum requirements of TVET programs usually discourage potential training providers to accept vocational education as sustainable investment option. (TSN2)

Another problem that the trainers voiced was their own competency in adjusting to emerging work technologies and practices. For instance, when TSN8 was asked what challenges the trainers faced, he had this to say;

> ….they are faced with the new technology and new approach towards solving/repairing new technological machines, which requires a further training hence they have to be retrained in order to match their skills. Capital, premises and modern tools and equipments [sic] are also other factors. (TSN8)

Types of trainees: TSN5 noted that many parents; including those with a vocational education encourage their children to become doctors, lawyers and engineers, because these jobs have potential for better job opportunities and more income. This negative perception was an obstacle to the development of viable vocational education and the improvement of the status of TVET. TSN5 argued that if graduates of vocational education earned more revenues than those who take the academic pathways, this would influence the parents' decision-making on the choice of courses for their children. The task, he observed, was to develop vocational packages that supply skilful and successful graduates, which would encourage the brightest students to compete for enrolment in TVET programs. TSN7 gave three reasons why trainers take up mechanic courses'

> Most trainees join the mechanic courses with the mind of competition, market change and also a heart that they are capable to perform and also market opportunities as they are few. There is also a category of students who joins [sic] courses due to family background/history, who have really succeeded and they tend to emulate their role models. The last category is those who join courses as a tradition where tailoring and dressmaking are for ladies and mechanics are for men.

At present, most of those learners who join the vocational institutions had parents who cannot afford the university upgrading courses that lead to admission to private university institutions and parallel degree courses (these are courses offered by the public universities, but which cost as much as the private institutions). Indeed 54 per cent and 94 per cent formally and informally trained employees respectively cited the high cost of further education as the main motivation for taking vocational training.

One other challenge identified by TSN4 and TSN1 was about social class:

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A university education in Kenya is still viewed as a status symbol and a ticket to social mobility, superior to all others: for example, although a mechanic could be earning as much money as an engineer, the perception of the society is that he is still of a lower social status, because of his training level. (TSN4)

It is not the poor *fundi's* fault. The problem lies with our education system and the job market. The market puts absolute premium on the attainment of a university degree. What they forget is that while the TVET institutions impart skill, universities impart knowledge. Ironically, the job market needs skills, but it demands people with academic papers that show knowledge. (TSN1)

TSN2 added that although financial incomes did not always equal higher social status, a change in this perception would require better quality training, leading to better performance and job productivity for its trained graduates. This would enable them to access jobs with higher wages and more job opportunities, so that parents could use a different standard to assess success.

Program accessibility: Trainers acknowledged that gender distribution in TVET institutions favoured men because traditionally TVET planning in Kenya catered for male trainees only. In addition, TSN2 observed that there were very few trainees from marginalised communities like the pastoralists; and the disabled members of the community. The prevailing facilities and social attitude largely influences the enrolment and qualification of the learners. The female trainees lacked role models, and as TSN6 put it "even the accommodation of women had to be made ad hoc with some former classrooms converted to dormitories." One trainer put it thus,

Enrolment of women reveals a heavy traditional bias in favour of 'light' courses such as business, agriculture and home management courses, with very few enrolments in the traditionally male–dominated technical areas, such as building, automotive engineering, construction, power mechanics, metal work and woodwork. This bias could be influencing the enrolment and participation of women in TVET programs. (TSN4)

Data obtained from ISN3 exemplified the gender disparities in different courses as shown in Table 6.10. In this institution, men were concentrated in the engineering courses with the women dominating courses such as secretarial and clothing technology.

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Table 6.10   Gender distribution in the diploma courses

Course	Gender	
	Male	**Female**
Motor Vehicle Engineering	25	7
Electrical Engineering (Power option)	27	5
Electronics Engineering	23	8
Building & Civil Engineering	31	1
Mechanical Engineering (Production option)	24	2
Food & Beverage Management	25	38
Clothing Technology	11	31
Secretarial Studies	3	34
IT (Computer module)	28	25
Business Administration	33	20
Human Resource Management	35	19
Marketing Management	26	21
Co-Operative Management	14	15
Supplies Management	25	18
Applied Statistics	16	7
Total	**346**	**251**

Source: ISN3

Sociopolitical factors: The trainers in ISN1, ISN2 and ISN4 further complained of lack of political will, which they asserted had a lot to do with the present situation in TVET. TSN1 observed that political will gave a sense of ownership to the implementation of policies, but when absent, it would become difficult to mobilise adequate resources. The government had to grapple with allocating resources to skills training alongside other competing sectors, and as it strived to achieve the millennium development goals, health and basic education sectors took precedence. TSN4 observed that while TVET was normally regarded as a sector under the Ministry of

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Education, basic education was considered a higher priority in funding. The trainer observed that although vocational courses had such importance to the communities' economic sustenance, Kenya's policy decision-makers did not support the courses because they did not consider them fully academic. Where this public perception exists among policy makers, it becomes difficult to get consensus on the important role of TVET in national development. Coupled with this, "… is the typical dearth in information, replication and duplication of government ministries' policies and other administrative agencies dealing with TVET (e.g. Ministry of Trade and Industry, Ministry of Higher Education Science and Technology, Ministry of Labour and Human Resources)" (TSN7).

6.4.4   Trainees' views on training activities

In any training program, trainees are the primary consumers of the training content in the institutions and their contribution was deemed vital for this study. As discussed in Chapter 5, focus group (FG) discussions of eight students each were formed in each training institution. From the discussions the trainees identified the following areas in the training activities phase: training objectives, duration of training, language of instruction and training equipment. These areas are presented below.

Training objectives: In FG3 it was observed that the trainees were happy with the training objectives and content of their courses. They found the materials challenging enough, and viewed their course as superior in comparison to other colleges in neighbouring countries. FG2 observed that their course was well crafted, but although they were required to have six hours of practical work per week, this was inadequate as they did not actually manipulate the vehicle parts, rather the trainer did the demonstration of the function under study. As a result, trainees indicated that although they obtained sufficient theoretical know-how, they did not have the corresponding practical experience.

Duration of training: Trainees in FG1 further observed that the training was too long and had too much content that was difficult to comprehend. One trainee complained that a certificate course should not last for three years, as was the case during the study. He recommended that the content ought to be taught in modular form to cater for those who may not have an interest in the whole craft course. The group observed that this would be less expensive and would assist those who cannot afford the whole course or those who did not want to spend three years in school.

Language of instruction: In FG4 trainees were concerned about the language of both the instruction and course materials. Those without a secondary school education found English too difficult to understand and recommended that materials be translated into Kiswahili, which was easier to comprehend. Trainees commended the trainers for attempting to translate the course materials for them, but found that this distorted the information. Furthermore, most cars' instruction manuals were written in English that was difficult for trainees to understand.

Equipment: A view frequently expressed was that the equipment and machines in most TVET institutions were inadequate for ample practical classes**.** Indeed one trainee in FG3 indicated that only five or so students closest to the trainer could see what was happening in the practical class. He would have preferred if they were fewer and if they were allowed to disassemble the engine and then reassemble it. The researcher was confronted with a sad sight in ISN3 where expensive equipment like hoists was in disrepair. TSN5 explained that most of the equipment was donated by a donor organisation, and when it (the organisation) stopped funding the institution, it became difficult to maintain the equipment. In ISN1 however, the equipment was that of a very high standard, well maintained and sufficient for the number of students, while ISN4 lacked even the very basic equipment for automotive engineering.

6.4.5   Education officers' views on training activities

Education officers interviewed had been involved in curriculum design, implementation, monitoring and examination. Their views were important in this phase of training as they were actively engaged in design and choice of methods for the TVET sector. These views are discussed under: training equipment, management of TVET program, training institutions, training materials, trainers, admission to the institutions, sociopolitical factors and the types of trainee.

Training equipment: The equipment found in three out of the four TVET training institutions visited were obsolete and insufficient and this, according to EO1, was due to years of neglect. He intimated that the government had instituted measures to revamp TVET institutions to offer quality training that met the required standards as set out in *Sessional Paper No.1 of 2005* that was discussed in Chapter 2. EO4 added that most institutions were not sufficiently prepared to offer the revised curriculum because their equipment and facilities could not support it.

Management of TVET program: The EO2 informed the researcher that, besides MoHEST, other ministries train their staff for specific functional areas. Data from MoHEST showed that the Ministry of Labour and Human Resources Development manages one vocational training centre

(the Kenya Textile Training Institute); the Ministry of Health, runs medical training centres, located at the provincial and district hospitals; the Ministry of Tourism Development runs the Utalii Training College (GoK, 2008a). Similarly, the ministries of water, agriculture, labour and energy had their own training institutions, tailor-made to serve their particular interests.

Training institutions: According to the data available at the MoHEST headquarters, the number of private sector (in-company) centres, private commercial college owners, NGOs and religious organisations running TVET programs were estimated at over 1000 with an enrolment of about 45,000 students (GoK, 2008a). EO2 added that in preceding years Kenya had experienced a proliferation of unregistered private training institutions using sub-standard facilities or unqualified staff, and offering certificates that were not recognised at all in the industry. To deal with this practise, MoHEST issued a press statement in December 2010 informing the public that all TVET institutions had been vetted, and those found not to comply with standards for training were listed for closure. The Ministry indicated that 386 TVET institutions had full registration certificates; 114 were operating with valid provisional registration certificates (which expire after the lapse of 18 months); 369 had expired provisional registration certificates; and 111 had not applied for any registration but continued to operate (MoHEST, 2010). The latter two categories—that is, those with expired provisional certificates and those that had not applied at all—were earmarked for closure. Further, the ministry directed that all institutions wishing to start any kind of training had to have their facilities inspected and accredited. This was a tall order in a ministry that had only eight provincial technical training officers, or one per province (the number would later be increased to 48—that is, one per county).

EO2 observed that a number of private companies train their own staff to fit specific roles in their institutions. Toyota Kenya and DT Dobie have an apprenticeship program that trains workers for specialised trade such as engine mounting or spray painting. The danger in this approach is that when the company closes down or downsizes the workforce, workers are left frustrated because their skills may not be useful elsewhere. For example, EO2 informed the researcher that despite Mumias Sugar Factory training staff for specific roles, it then closed down leaving the employees with skills that they found difficult to use. According to the education officials, these companies were leaving their mandate of production and moving into training —a function of TVET centres. Indeed, having noticed the skill gaps in the TVET trainees, KEPSA plans to retrain 15,000 trainees to ensure compliance with the industry's needs (KEPSA, 2010).

Training materials: Curriculum implementation suffers from multiple challenges: According toEO4,

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The TVET level suffers from lack of adequate curriculum support materials, such as textbooks, trainee manuals, handbooks and instructors' guides. Other vital materials needed include manuals for guiding supervisors who conduct trade projects and for industrial trainers and supervisors of industrial attachments. This greatly compromises the quality of learning at this level, considering that many of these trainers hold only basic qualifications.

EO2 noted that the curriculum structure for TVET starts at the artisan level and progresses through the craft level, diploma technical level and technologist level, and then terminates at the highest level—the advanced technologist. The officer observed that "… almost all the textbooks used at all levels of TVET are foreign. Local authors have not found it fit to write books for TVET because they may not reap benefits from the sales compared to the primary and secondary schools" (EO2). The researcher's observations in these institutions confirmed the EO2's statement. The technical and engineering courses did not have any local authored books, but the Business and Theological studies had some of the course books written by Kenyans.

Admission to public vocational institutions: There were basic entry requirements at each level, but these differ from one institution to another and from one course to another, as shown in Table 6.11 below.

Table 6.11   Course entry requirements

Course	Entry Grade
Artisan	KCSE D- or KCPE
Craft	KCSE D
Diploma	KCSE C-
Technologist	KCSE C+ or relevant Diploma

EO2 further specified that the artisan course was designed for graduates of primary school and KCSE graduates who score D– and below. These two groups had the general literacy required for instruction. The official duration of the artisan course was two years, but EO4 indicated that the KIE normally lays more emphasis on teaching contact hours than on calendar months. EO1 observed that the tuition for this course was offered free by all the institutions spread throughout the country to encourage those who may have had an interest in any area of technical study.

EO2 specified that to enrol in the university for a technologist degree, the prospective trainee was required to have a minimum grade of C+ in the KCSE, but due to the competitiveness of the courses the entry grade was set higher. As noted above, a learner only needed to score a D in the KCSE to be admitted for some courses—a grade the stakeholders perceived as too for training. On being asked why the admission grade for most courses was that low, EO1 noted that initially the basic entry requirement for the TVET craft course was pegged at a mean grade of D+. One also needed a D+ in each subject that constituted a cluster that was relevant to a particular course. This was found to be too high and later scaled down to a plain D. Similarly the basic requirement for the diploma course was lowered from C to C−.

Trainers: EO3 observed that teachers in the technical institutions rarely chose to enrol for refresher courses, which placed them at disadvantage to their students who were more exposed to modern technologies through the use of information, communication technology (ICT). TSN7 acknowledged that at the YPs it is much worse where the trainers felt "neglected and unappreciated". Accordingly, ". . . most of us have to survive by working doing other businesses like "matatu" [taxi] because what we receive cannot even pay school fees for a primary school child (TSN 7)". In addition, he lamented that their pay was not always guaranteed and they lacked union representation, ". . . my salary is only Ksh. 4,285, which cannot sustain my family. I have to look for an alternative source of income to make ends meet".

Apart from the existence of gaps between competencies, and the responsibilities of those mandated to undertake provision of training, there was a challenge to be faced with professionally competent staff migrating from the training sector to other sectors and even to other countries because of poor remuneration. In the EO2's office the researcher noted a table detailed the distribution of the teaching resource in the TVET institutions in Kenya in for the year 2006. This data is replicated in Table 6.11 below. This number of trainers was not academically and technically adequate to enable them to achieve the expected outcome (GoK, 2008a). Although these data show that 327 trainers had postgraduate training, EO3 indicated that most of them (data not available), studied unrelated courses to the ones they taught, such as masters in entrepreneurship or business administration. Universities offering those degrees allowed the trainers to join the master degree courses with a minimum entry requirement of a higher national diploma. TSN3 observed that this route was very popular as the other equivalent courses expected them to first do an undergraduate degree before taking the master degree.

Table 6.12   The distribution of TVET teachers under TSC by qualification

Institution	TIVET teachers' qualifications						Total
	PhD	Masters	Bachelors	Higher diploma	Diploma	Other	
National polytechnics	1	112	340	186	61		690
Kenya Technical Teachers College	2	51	59	15	4		131
Technical training institutes		74	240	201	522	42	1079
Institutes of technology		57	523	210	532	44	1366
Total	3	324	1162	612	1119	86	3266

Source: GOK 2008 p.12

Types of trainee: EO1 observed that TVET attracts both students of average academic standing, who did not secure places in universities, and above-average students who secured places in universities but for some reason (such as inability to pay fees) were forced to undertake TVET courses. Adult learners who take time off from their employment to further their studies in various disciplines, especially in business courses, were also enrolled. According to the education officials, most learners (e.g. SN3 and SN13) see TVET as the last choice having failed to acquire enrolment at university. EO1 summed it up thus, "traditionally, the learners were seen as failures who had no choice, having failed to get university admission".

Although the negative attitude towards TVET was changing due to the success of a number of graduates, it was nevertheless still prevalent. EO1 indicated that recent development in the TVET sector had made the program more appropriate in that:

- There was a direct route from the TVET institutions to the university that had given TVET a much needed image boost.
- The image of the institutions had improved due to the government's engagement with the institutions such as the directive that all trainings must be carried out in government training institutions. The money collected from the attendees of these courses has given the institutions an economic boost.

- The elevation of Mombasa and Nairobi polytechnics to national universities has popularised the technical courses as there's a direct link to higher education
- The national polytechnics are based on specific courses for the higher education e.g. electrical engineering and electronics is based in Mombasa

To further attract trainees, the cost of training had been heavily subsidised for the ITs, TTIs and NPs; and at the YPs the training was free. Due to the difficulties encountered in getting women to take engineering and technology courses, the government practices "positive discrimination" by offering full scholarship to any woman wishing to enrol in these courses, resulting in a small but significant enrolment increase.

Sociopolitical factors: EO2 acknowledged that TVET did not operate in isolation; rather, it operated within the country's economic, political and social contexts, all of which had varied influences on its performance. EO3 described the frustration and bureaucracy of legislating vital government policies. He gave one example: despite the technical industrial vocational and training agency (TVETA) policy having been drafted in 2003, it had not reached the parliament for debate and therefore it remained in a draft form that could not be implemented, yet it held the key for revitalising the TVET sector. TSN2 attributed this to the frequent turnover of ministers at the Ministry of Science and Higher Education.

Prior to 2005, TVET was a department in the Ministry of Education, but in an effort to improve coordination in the development and application of science, technology, innovation and technical education and the efficient use of limited resources, the government established the Ministry of Science and Technology in December 2005. The role of the ministry was to contribute to the improvement of the social and economic status of Kenyans through a coordinated and harmonised integration of science, technology and innovation with the national development processes (www.mohest.gok.ke). Since then, the ministry had four different ministers, all with different priorities and interests. At the time of this research, the ministry did not have a substantive minister, but had an acting one who had another core ministry. According to the ministry website, the first minister (2005–2008) presided over the formulation of a comprehensive science and technology policy, the establishment of a science and technology fund and the revamping of technical education, among other engagements. In the year 2008 the ministry changed hands to a second minister who stayed for less than one year but presided over the extension of loans and bursary facilities to students in private universities, saw to the increase of the Joint University Admissions Board's students from 10,000 to 16,000 and steered the upgrading process for technical institutions to universities in a bid to enhance access to university education.

The third minster (2008–2010) fast-tracked the three major Bills for the Higher Education, Technical Education, and the Science, Technology and Innovation sectors to cabinet. He also began the process of streamlining the technical education sector by weeding out fake technical colleges. The Minister also fast-tracked the process of the formation of the Kenya Open University and lobbied for more funding towards development of middle-level colleges. He argued that middle-level colleges were necessary for creating skilled human resources vital for the realisation of the *Kenya Vision 2030* document (GoK, 2007). On the other hand, he saw the need to increase funding towards science and technology courses. This minister was perhaps the one who came closest to realising TVETA policy, but he left before it was legalised.

6.5 Findings: Training evaluation

In this section is a presentation of the third phase of a T&D, which is divided into two parts—first, the processes of the TVET program's evaluation as outlined by the education officials and trainers, and since all the employers that took part in this study carried out some form of training, they outlined their evaluation processes too. Then in the second section—6.6.2 is an evaluation of the training outcomes through data gathered from the perception of MSE employers and employees education officers, and TVET trainers and trainees.

6.5.1 *Processes of TVET evaluation*

Training evaluation is the last phase of an organisational T&D model. One of the aims of this study was to learn about the evaluation processes in the TVET program in Kenya, and determine whether there are gaps in the process. Because this is considered a technical area, data were gathered from the four education officers and eight trainers. Stakeholder EO4 who was an officer at the KIE informed the researcher that the department's strategy recommends that summative evaluation be undertaken every four years to establish the effectiveness of the TVET program. The national TVET strategy further proposes the development of evaluation tools to be used to gather data from stakeholders such as the institutions' management, the trainees, the industry, the book publishers and other TVET consumers.

EO2 indicated that monitoring and quality assurance of TVET is performed by the MoHEST which is mandated to ensure that quality training is maintained by accrediting all training institutions, monitoring the training program to ensure compliance to set standards, and regular evaluation. EO4 affirmed that apt monitoring of curriculum implementation processes help to gauge the rate of progress and obtain feedback for addressing weak areas. According to EO4,

however, this has not been done adequately, due to a lack of policy concerning the frequency of curriculum monitoring and evaluation, inadequate staffing levels and insufficient funds.

The government identified inspection, monitoring and evaluation as the weak elements in the implementation of the TVET curriculum as technical inspectors are largely absent at the provincial or district level and only minimal representation exists at the ministry's headquarters (GoK, 2003b). EO2, admitting that the situation had not changed much since identifying these elements, adding that plans were underway to recruit one inspector for every county (there are 48 counties in Kenya) as a starting point to deal with inadequate staffing levels.

EO4 indicated that at the end of the training cycle, TVET trainees sit for a certificate examination. Final examinations are offered by a number of examination bodies, such as the Kenya National Examination Council (KNEC), the Kenya Accountants and Secretaries Examination Board (KASNEB), the Directorate of Industrial Training (DIT) and some foreign bodies such as City and Guild and Pitman's. Stakeholder TSN4, who was an examiner with KNEC, observed that most motor vehicle students do not do well in the practical examination due to insufficient practice during their study. Thus, although most students had the theoretical know-how, they failed to translate this into practice when asked to.

All the employers who took part in this study had provided some form of training and the researcher was interested to find out if and how they evaluated the results of their own training. Most of them indicated that they relied on feedback from the trainees and observed them at work to ascertain if they possessed enough skills. The employers gauged the quality of their training by how fast the trainees became competent and by the number of new trainees who are introduced by current and successful trainees.

As discussed in Chapter 4, evaluation of a training program assists in identifying areas of improving the program, determines its viability and justifies its existence. The result of the evaluation informs the public, helps in decision-making and stimulates debate. In addition, the evaluation results clarify employer decisions about the program, inform potential trainees about training options and quality, and help to improve the quality of the training systems. Thus, it is vital to choose evaluation processes that will gather as much data as possible, both in breadth and depth.

In this section is a presentation of the stakeholders' evaluative views of training evaluation, which is the last phase of a T&D program. The aim was to obtain stakeholders' opinions and assessments of the TVET program and the extent to which it contributes to the acquisition of job-related skills and competencies of TVET graduates in MVRSI. In general, all the stakeholders in this study acknowledged the important role that the training program in Kenya plays in providing skills and competencies to the MVRSI. However, stakeholders had diverse opinions on the degree to which the competencies and skills contribute to the development of the sector.

6.5.2.1 Education officers' evaluation of TVET

Education officers outlined both the positive and negative aspects of vocational training. EO1 and EO2 noted that TVET is the driving force of the Kenyan economy and provides skills to the largest part of the population, who would otherwise be unskilled and unemployed. EO1 added that the graduates have superior skills to those who are not trained and have been able to fill skilled worker gaps throughout Kenya. EO1 observed that, due to their superior interpersonal and managerial skills acquired in the institutions, TVET graduates manage most of the small-scale enterprises.

The four education officers observed that Kenya's vocational education suffers from an image problem because most Kenyan's viewed as a last resort for training. To counter this poor image problem EO2 noted that creating a more positive awareness of the TVET program is one of the most important initiatives training institutions can undertake. Instilling a strong positive attitude towards skills training will support sustainable development in the society in general and in particular among the institution's community members, enabling them to be good ambassadors. EO2 recommended that this strong culture ought to be built from an understanding of the concept and good sustainable development practices in the institutions. EO1 acknowledged that the MoHEST had taken some steps to creating awareness by organising trade fairs where the TVET institutions showcased their skills and competencies. MoHEST also takes part in the agricultural shows that are held at various times of the year throughout Kenya.

Stakeholder EO4 observed that most trainers do not have the capacity to conduct quality instruction because they do not receive sufficient capacity-building to enrich their skills. Thus, most graduates are not adequately prepared to tackle workplace problems because they are not equipped to do this by their trainers. Other problems that were pointed out by EO3 include poor

instructional methods, inadequate and sometimes outdated training equipment and insignificant work experience. EO1 identified inadequate TNA as the major cause of poor training outcomes in the MVRSI. Another problem identified by education officers was the management of the training institutions. EO2 observed that

> most institutions in this country are run by BoGs who are in most cases political appointees. Most of them do not have the managerial know-how that is required to run training institutions. Their only interest is the sitting allowance that they get at the end of the meeting, and to advance the interest of the appointing authority who is the politician that nominated them. EO2

In addition, EO3 recommended that;

> BoGs should be composed of people who can contribute effectively to the development of training institutions. There are many people who have the required knowledge in training and development in the society, and who can provide useful contribution to the development of the training programs. (EO3).

6.5.2.2 Trainers' evaluation of TVET

The TVET trainers' evaluation of the program was also sought because they are some of the most immediate stakeholders. The trainers concurred that TVET is vital for developing a nation's economy and general society, with TSN3 noting that two-thirds of the population generally work in jobs that require a vocational skill level. TSN2, however, noted that TVET training is still overly focused on science and technology-based curricula, and training programs without a practical basis, making it a 'dead end' route. Trainer TSN4 complained that the tendency to measure proficiency, rather than practical knowledge "encourages the graduates to join the labour market when they are still raw". In an interview with the *Daily Nation* newspaper, the principal of Kenya Polytechnic University College (KPUC) intimated that he would want to see a framework where there is "formal recognition of qualifications gained from the attachment venture, so that a student's competency in the ability to perform a prescribed professional or technical task is graded for their overall credits for that academic year" (Kairu, 2013 p. 11). According to the proposal, in the new framework students would be expected to join business for practical industry related projects that would be evaluated in part by industry professionals.

Trainers TSN4 and TSN6 advised that there is a need to create progression pathways between general education and vocational training, rather than the two types of programs having parallel systems within separate institutions and programs, and with separate trainers, as was the case at the time of the study. Links between education and training and the employment sector ought to be improved through researching the available needs and competencies and those that would be

required in the future by the labour market, noted TSN1. Accordingly this trainer advises for increased emphasis on strengthening vocational training status and to establishing life-long learning approaches, counselling and guidance for vocational training. A special interest, as noted by TSN2, is to have training programs that promote equal opportunities, thus enabling all to have access to the labour market.

All the trainers were concerned by the weak linkages between TVET and the labour market, noting that, to improve socio-economic development, vocational training must have an aim of employment in the informal or formal sector, since education and training alone cannot create jobs. TSN2 observed that it is critical to make sure that what TVET institutions are teaching coincides with the needs and opportunities of the labour market. TSN4 observed that, instead of the current half-hearted approach to training for effective workplace practices, the training should improve business management and entrepreneurship skills in order to equip graduates with skills for self-employment.

Trainers had very strong views of the process of program monitoring, inspection, quality control and evaluation by their ministries. TSN5 noted that the presence of the technical staff at the ministry was only felt when they acted as 'fire-fighters', going to the institution when there was a crisis such as student strikes, or when closing down unregistered institutions. Trainer TSN3 observed that graduate monitoring mechanisms are weak, unstructured and ad hoc. Indeed, the researcher found very little evidence from the institutions that the graduates are ever monitored, or any kind of information about them kept. TSN3 argued that this is a missed opportunity for assessing the needs of the industry and also for developing an evaluation process for the training that the institutions were providing. There was a positive affirmation however form TSN7 who informed the researcher that, "a community based training inculcated in our institution does regularly follow up and about 80 per cent becomes self-supporting after leaving our institution, which is our motto". Unfortunately, this information was not collaborated by any data.

TSN5 observed that the centralised structure of TVET does not recognise the diversity of the country in terms of its geographical, economic and social attributes. The TVET educational calendar, which follows the school calendar of three terms, hinders flexibility. TSN5 therefore recommended that institutions should be allowed to tailor their courses to the regional demands. TSN4 added that modular-based courses that are shorter and more specific to a particular skill could be instigated to cater for those trainees with specific needs. TSN6 added that institutional management boards and committees could be empowered to make some decisions pertaining to training programs, such as evening, weekend or holiday classes. At INS4, TSN8 intimated that his

institution had taken a step to align the training to the market,

> What we actually do as an institution is to look and search for any new curriculum and we compare. We also do have website visits to see on new requirements e.g. from the ministry of education, ministry of youth, the directorate of industrial training and this we are not left behind. (TSN8)

The researcher found this information interesting and asked the trainer at the last institution to be visited (ISN2) if they could do the same. TSN3 observed that while it is possible to modify the artisan level curriculum which ISN4 basically trained in, it would be difficult to do the same for higher levels, which have a more centralised examination (at the artisan level, 80 per cent of the evaluation is done by the trainers themselves and 20 per cent constitutes theory).

6.5.2.3 Trainees' evaluation of TVET

Trainees who took part in this study were quite aware of what they wanted from the training system. They expected to be equipped with skills that would be applicable and relevant at the workplace. After going into the industry for a three-month attachment they were able to evaluate their training in tandem with industrial needs and demands. All the focus group (FG) members were in agreement that their training was necessary and vital for the economy. They were satisfied with the instruction in the business and theory aspects of their course. However, they were concerned about the low quality of skills acquisition and proficiency testing, gender stereotyping and unclear career pathways that lead to low self-confidence and poor motivation.

To improve the training program, FG1, FG2 and FG3 suggested that the curriculum should support entrepreneurship by integrating internships and attachments at various stages of the training, instead of offering work experience as a one-off activity. They argued that there is a need for continuous capacity building of human power in order to maintain the high standards of training required, because at the moment trainers lack modern industry-based technological knowledge and skills. The need for appropriate tools and equipment was an area of concern, more so in FG4, as was the lack of role models in society, as cited by participants in FG2.

6.5.2.4 Employers' evaluation of TVET

Of the 19 employers who took part in this study, 63.5 per cent had received TVET training while 31.5 per cent had received informal training. With this ratio it would be expected that employers would recognise formal training in employee selection; yet only two out of the 19 employers indicated that the level of education was a priority in recruitment. Instead, references from relatives, friends and clients determined recruitment practices. Furthermore, 58 per cent of

employers did not consider the level of training when awarding salaries and wages, preferring to reward practical experience and the ability to carry out assigned tasks.

On the question of whether the skills that TVET graduates exhibit meet industry needs, only ESN2 and ESN5 gave an emphatic "No". Although they all agreed that TVET is a necessary program for the country's industrial growth, other employers rated the success of the program differently. The comments are presented in Table 8.1.

Table 6.12   Employers' comments on TVET

Positive comments	Negative comments
• In terms of appreciating the principles, theories and ethical considerations needed for the profession, the graduates are better than the others; this enables them to negotiate for business with ease. • It is a good starting point for the profession but there is a need to refocus the curriculum to fully meet industry needs. • To some extent the graduates of TIVET can be relied upon to get things done with minimal supervision. • They have the ability to learn fast and are business minded because they use the most efficient means to get a job done. • They are prepared to take up challenges, ensuring a progressive career for them.	• Graduates demonstrate limited practical knowledge and limited hands-on experience with some models of vehicle, especially the new models. • The graduates are scared when they meet such new challenges as new models of vehicle and the use of sophisticated equipment (e.g. computerised diagnostic kits). • The TIVET graduates cannot "stand on their own" without guidance until such a time that they are fully acquainted with the finer details of the business. • A lot of time is wasted on retraining the TIVET graduates. • They still need a lot of "baking", since they graduate half-baked.

A revealing observation of the 17 out of the 19 MSE that took part in this study was of the

minimal and very basic equipment available and the casual ways in which the mechanics handled occupational health and safety (OHS) issues. Some unsafe activities observed at the institutions were: poorly repaired steering and braking systems, poor methods of hoisting, and worn out tyres. Other personal safety issues included the absence of personal protection equipment e.g. while cleaning with petrol and other chemicals. In a similar study in India, Barber (2004) observed that in MSE personal protective equipment was missing, spray painting was done indoors without using essential equipment such as dust masks or respirators, welding was often done near fuel tanks, tools were stored in dangerous conditions and generally safety was not a priority by most workers.

Although the training institutions were not fully equipped, there were some crucial OHS procedures in the MVRSI that the graduates learned. However, most of these procedures were ignored at the workplace, further confounding skills transferability. This situation led one employer, ESN1, to observe that TVET graduates have a tendency to follow strictly laid down procedures of doing things (as they were taught in college) and are reluctant to take the short cuts that are considered the norm.

Self-employment is the ambition of most of the TVET graduates but, as ESN16 noted, "Most graduates do not have business skills and expect to be employed in the formal or informal sectors despite the opportunity for self-employment". The new graduates also lack the start-up capital for self-employment—a problem which, according to ESN12, could be addressed by the acquisition of facilities, tools and equipment through loan schemes. This sentiment was also echoed by ESN2 who argued that the high unemployment among the youth could be alleviated by the government assisting the informal sector by way of 'soft' loans (loans with low interest rates) and other concessions in order to absorb more youth from both informal and formal training institutions. ESN15 recommended that the purpose of TVET should be to motivate youth to consider and explore the option of being entrepreneurs, and to provide practical and essential information about the opportunities, challenges, procedures, characteristics and attitudes needed for entrepreneurship. ESN12 and ESN14 added that TVET ought to develop positive attitudes towards sustainable enterprises and self-employment among its graduates while they are still in the training institutions by creating awareness about entrepreneurship as a career option. Self-employment would avoid graduates' frustration when they miss out on employment. According to ESN4 measures such as providing loans or bursaries to potential learners to improve TVET's access for the marginalised groups such as female students, the poor and the disabled would go a long way towards the development of entrepreneurial abilities.

6.5.2.5 Employees' evaluation of TVET

Employees interviewed gave varied evaluations of the TVET program. Those who had been formally trained perceived it to be superior to informal training because it "provides skills that have long-term benefits to the graduates and can be upgraded though a life-long learning approach" (SN27). SN2 observed that, due to their higher levels of aptitude, skills and competency, those graduates who wished to further their careers were free to take that option. SN33, SN2, SN14, SN28, SN44 and SN27 also observed that the training imparted high quality skills that increased the chances of graduates being able to lead comfortable lives, either through self-employment or decent gainful employment in both the formal and informal sectors. Others (14 out of the 25 formally trained employees) indicated that TVET training provides a foundation for productive and satisfying careers and, at the same time, offers specialised preparation for initial employment, including self-employment, and that therefore, as SN17 put it, "one cannot go hungry".

SN6, SN33, SN35 and SN43 observed that the formal structure followed a syllabus; while in informal training instruction is done on the job without any structure or known lengths of training. The acquisition of skills for self-reliance served as a major motivator for 18 employees to take up formal training because they were aware that the country had a very high unemployment rate among the youth. SN20 and SN33 added that the course was highly marketable as the country was flooded with 'mitumba' (reconditioned cars), which required frequent servicing and repair.

While some of the employees indicated that informal training was unstructured and dependent on the individual trainer (for example SN5, SN22, SN28, SN48, SN52 and SN57), a number noted that the training was flexible and cost-effective with SN42 noting that informal training provides the appropriate skills required to fit into the labour market; and the exposure is commensurate with dynamic technologies. Others cited the ease of transferring the acquired skills to the actual workplace, and the hands-on experience gained while training. In addition, the entry qualifications of trainees can be extremely variable, favouring those who are less endowed academically as much as those who are high academic achievers.

Human resource issues at the MSE were cited as an area of concern by most employees, more so by those with a TVET qualification. Employees SN30 and SN16 observed that TVET graduates do not receive value for their money in terms of compensation because they suffer from a lack of industrial exposure and practice, which makes them unable to start using their skills immediately upon employment. Time is consumed adjusting to the needs of the industry because new or

modern ways of doing things have to be absorbed within a certain duration, during which time the employees are not adequately remunerated because they are considered to be engaged in training. Even when they have been deemed competent, the MSE lack clear career pathways. SN42 observed that contractual agreements, job descriptions and the ability to join trade unions were all absent, leaving employees "at the mercy of employers".

Other challenges faced by TVET graduates include the following: the perception that they are 'half baked' (SN16 and SN46); competing for jobs in the *jua kali* sector with those who had been informally trained (SN2, SN3, SN20, SN25 and SN33) and who were willing to take relatively lower salaries (SN27); and a lack of tools-of-the-trade and the existence of unconventional methods of work in the MSE that further complicate transfer of skills from the institutions to the workplace (SN24). Employee SN32 complained that "there are times when TVET graduates are expected to improvise tools that are not available in some of the motor garages, which is not the conventional way of doing things; for instance, having to use a hammer instead of a specialised tool".

Coupled with the public's poor perception, is the inference that TVET graduates are trained to work in large corporations (SN28) and, as such, are considered unsuitable when they seek employment in smaller enterprises. Some graduates face unique challenges, such as having very high expectations and tending to be choosy, as noted by SN43 when looking for employment. But, due to the scarcity of opportunities in the big industries, they are forced to look for jobs in *jua kali* garages and take any pay on offer. SN33 summed up his frustrations by stating that "the large sector organisations are looking for graduates from universities while the *jua kali* sector demands those who are informally trained, with hands-on experience. This leaves the middle-level TVET graduates without an industry that favours them". He asserted that there is no specific industry that can claim to prefer TVET graduates.

Employees are sourced from the skilled labour that the MVRSI seeks from the TVET institutions to carry out repair and service. The quality of TVET graduates is important in meeting the goals and aspirations of both the MSE and their customers. The middle-level TVET graduates play a significant role in filling the labour gaps needed of the MSE. However, the graduates experience challenges at the workplace because of both the suitability of the skills they attain at the training institutions, and the transferability of the skills learnt.

6.6 Summary

In this chapter, analyses of data gathered from the stakeholders in the Kenyan MVRSI were presented. Profiles of the respondents were first presented by detailing their age, gender and academic qualifications; second, business profiles were discussed, including the number and composition of employees; third, discussion of the four institutions under study revealed ownership (public or private) and training level (artisan, craft, diploma or degree); and fourth, education officers' details were specified. It was observed that the MVRSI is highly male-dominated; most businesses have been operating for more than three years and have between six to 12 employees. Whereas most of the employees were between the ages of 26–35 years and had received informal training, most of the employers were over 40 years old and 64 per cent of the employers had a formal vocational training. MoHEST had identified seven key areas that national TVET objectives were expected to address, but the institutions lacked the capacity to successfully implement the curriculum. Some institutions were using foreign curricula that were in conflict with the Kenyan TVET-identified goals because the particular curricula promoted the objectives of the host country

The TVET processes findings were discussed based on five factors that the stakeholders viewed as having a great influence on the quality, effectiveness and efficiency of the training system in the MVRSI sector in Kenya. The findings indicate that most of the public training institutions were located in the major towns and cities, while private institutions were almost all in the urban towns. Curriculum implementation in most institutions was largely theoretic, resulting in graduates who exhibit inadequate practical skills in the workplace. A majority of the TVET trainers were inadequately prepared to offer quality instruction because their capacity to carry out research was low, some of the professionally trained staff members migrated to other ministries and even to some other countries; some carried out other businesses to supplement their low earning; in addition, they lacked professional development. Most trainees were attracted to TVET because they failed to achieve university admission, could not afford university fees, had a genuine skill interest or were influenced by their relatives. The impact of sociopolitical factors were seen in difficulties with the coordination of training activities and the multiple management approach that had led to duplication of efforts, conflict of authority, under-utilisation of training facilities, unnecessary competition and costly, irrelevant training programs.

In section 6.6 there was a meta-evaluation of the TVET program by the education officials and the trainers. The two groups of stakeholders identified examination results, enrolment and practical tests as the main methods of evaluating TVET. In addition, the stakeholders observed

that there was insufficient monitoring and quality control. The employers who carried out informal training in their businesses, did not have a uniform way of evaluating their training, rather they relied on their intuition, observation and feedback from the trainees. In section 6.6.2, the stakeholders' evaluation of TVET was presented, where all of them acknowledged that the training program was vital for job creation, employment and development of the MVRSI. However, they pointed out the weak areas of the training, providing valuable feedback that can be used in re-designing viable programs.

CHAPTER 7   DISCUSSION

In this chapter is a discussion of the findings in the content of the key elements of the T&D framework that was discussed in Chapter 4. The first to be discussed is TNA in section 7.1.1, while training objectives are discussed in section 7.1.2. The TNA discussion is based on four key features: training program contents and priorities, required resources, timing of implementation and the expected rate of progress and returns; whereas training objectives are discussed under five specific areas, to be addressed by the syllabi: delivery of quality TVET, improvement of consistency and management by training providers, improving graduates' employability, promotion of life-long learning, and enhancement of the status and attraction of vocational education. In section 7.3 the second phase of T&D processes—the training activity is discussed. The discussion is based on five factors relevant to this phase: TVET training institutions, curriculum implementation, trainers, trainees and sociopolitical factors. In section 7.4, interpretations and discussions are grouped following four levels of the Kirkpatrick evaluation model: reactions, learning, behaviour and results—because although other models of evaluations have been advanced, the Kirkpatrick model presents a comprehensive structure for this study.

7.1   Training and development needs analysis

This thesis aims to analyse MVRSI key stakeholders' perceptions of technical, vocational education training for the MSE in Kenya. To do this it was necessary to study different T&D models that were later used to inform the development of a framework that will be used to discuss the findings of this study. The framework has three sequential phases that start with training and development needs analysis (T&DNA) that has two parts, TNA and training objectives.

7.1.1   Training needs analysis

Three components of a TNA that were used to inform this research were discussed in Chapter 3: organisation, task, and individual variables. Organisational needs analysis examines a particular organisation's aims and objectives, resource allocation and mechanisms of monitoring and evaluation. A task analysis defines performance targets, identifies training activities, and determines the knowledge, skills and proficiencies that aid in successfully performing these tasks. Individual analysis is concerned with determining job requirements, current and future skill levels of the workforce.

The translation of an organisation's training needs into goals and objectives provides purpose and direction for a training program, other than merely copying or relying on what others are doing

(Stone, 2010). Brown (2002) identified four objectives for a successful TNA: (1) to identify the department's skills gaps (in this study, the MVRSI in Kenya); (2) to advocate for top management backing; (3) to gather data for use in monitoring and evaluation; and (4) to determine training benefits. Likewise, Ridha (1998) perceived TNA as the examination or analytical part of the training program which aims to determine if there is observed performance discrepancy—that is, if there is a difference between the level of performance and the expected outcomes. Accordingly, he suggested six key features that a sound T&DNA should address:

- training programs and contents
- training priorities
- assumptions behind the choices and priorities
- required resources
- timing of implementation
- the expected rate of progress and returns

These six features were used to identify four thematic areas of the TNA sub-section of the T&DNA phase of the T&D framework (developed and presented in Chapter 4). Through a Kenyan situational analysis carried out in Chapter 2 the four areas were judged to be most appropriate for the Kenyan MVRSI. These areas are used to discuss and interpret data gathered for this study.

7.1.1.1 Training programs, contents and priorities

Although training needs analysis was acknowledged by all the stakeholders in the MVRSI as a fundamental part of TVET in Kenya, most respondents observed that this was not done adequately as a skills inventory that would guide training providers was not available. Since the aim of training is to enable its graduates to find suitable jobs, a link between the curriculum and the labour market demands in necessary through a program that is appropriate and responsive to the industrial demands. Training institutions, both public and private, in Kenya and the industry all complained of the lack of a skills inventory that would form the basis of an efficient use of scarce resources. Data collected for this study show a hiatus in the conduct of TNA in all sectors of the Kenyan program. KIE, MoHEST, the industry and the institutions expressed a desire to conduct more TNAs to identify and actively respond to the identified gaps, but were unable to due to a variety of reasons.

The Kenyan government has specified four issues for T&D to address: quality, relevance, access and equity (GoK, 2005). A *quality* training program involves adequate facilities, well-trained instructors and effective monitoring and evaluation mechanisms. *Relevance* is concerned with instructing what is demanded by the consumers of the training program through matching the training with the appropriate content. *Access* to training asserts that potential trainees should not face any hindrance in acquiring training; this would require locating the training institutions in areas where they are needed, equipping them, and adequately funding programs to allow the poor segments of society to access training. And to ensure *equity*, courses ought to be made attractive to male and females alike, the disabled, the poor and the marginalised (such as the pastoralists). These four issues are the basis of TVET's objectives, which are discussed in the next section.

Despite this specification of priority areas, data gathered for this study points to a different trend in the training programs. The quality of MVRSI mechanics training was rated as below standard by most stakeholders because it failed to meet the required standards as judged by the graduates' performance. Although the YPs are spread all over the country, most of them are unable to serve the community's needs because they lack essential equipment. The other institutions are located in the urban areas, negating the push for access and equity of the programs. Training institution managers also argued that potential trainees cannot access the training because they cannot afford to pay the fees demanded by the institutions. Monitoring, evaluation and quality control that would offer guidance to training providers is not sufficiently carried out.

There are several possible reasons why TVET is not able to meet its stated objectives, and these are multifaceted. The review of government papers in Chapter 2 of this thesis showed that training is run by over twelve ministries, local governments, private providers and international organisations. This has led to duplication of services, competition of scarce resources, and general lack of ownership. Problem areas are not addressed sufficiently, research is rarely done, curriculum review and update is ignored and provision of ample facilities is lacking (GoK, 2003a, 2008a). The result has been training programs that have led to wastage of resources, mismatch of the skills obtained and those needed by the industry, low quality of competences, inadequate graduate attributes, and unemployment of most graduates.

According to the education officers, low levels of funding of TVET programs have resulted in a skimming of processes, rather than of a thorough review. For instance, TNAs are routinely done using advisory committees and examination results, and this shuts out major stakeholders in the industry. These methods of assessment cannot address core areas, like tracer studies, or follow graduate pathways. Training providers and employers complained that lack of a skills inventory

leads the government to attempt to solve human resource skill shortages and performance through training without addressing the skill problem and labour demands.

Most of the MVRSI employers do not see the need to support the training program, since they do not see its benefit. Although 86 per cent indicated that they took in trainees who were on attachments, they viewed the slow ones as an added burden to train and monitor, whereas those who exhibited competency in skills were an added workforce for the businesses. To assert this situation, Ngoa-Nguele and Stolovich (2001) observed that most of the training done on the job in the country is unstructured, with varying degrees of effectiveness and efficiency, and loosely structured training objectives and practices because the trainers lack a systematic way of assessing needs. There is a ray of hope however, with recent partnerships between learning institutions and the industry which the KAM CEO observed that . . . "It is part of the bigger scheme to bridge the troubling gap between institutions of higher learning and industry requirements in terms of the skills imparted on students" (Kairu, 2013 p. 11). In addition, the partnership seeks to use the TVET institutions to enhance training on business development by focusing key areas such as: innovation, business plan development, start-up courses, marketing and cash-flow management.

Partnerships between the industry and training institutions are important because most employers and employees did not think they could upgrade any of their skills at the formal institutions because of observed deficiencies in the graduates. According to Hans (2002), lack of perceived benefits almost derailed a training program by a Kenyan NGO—Strengthening Informal Training Enterprise (SITE). Although SITE had done a market trends analysis, the project suffered a setback because the participation of the 'host trainers' (employers providing training) had not been sought, resulting in their lack of interest and commitment in technical skills upgrading. Notwithstanding, the project took off through an enhanced participatory needs rationalisation process and consultation with potential clients. It centred on the following: direct business improvement, flexible schedules, continuous training for the staff and overall management of training. Consequently, Hans (2002) suggested that a TNA should match the aptitudes and interests of potential trainees with actual job opportunities determined by market studies or employers' feedback. Further, there is a need for analyses that cater for particular segments of the MSE sector, such as small income generating activities, employing one or two people, and requiring different business and technical skills, rather than small informal enterprises employing permanent workers.

According to the trainers, another reason for the TVET program's inability to meet its objectives was due to inadequacies in the trained trainers, physical facilities and instruction materials.

Trainers acknowledged that they do not update their skills frequently enough to match technology at the workplace. The government did not provide clear in-service programs for them. The only option left for them to advance their training was to pay for it, resulting in myriad training levels and instruction depending on the motivation of each particular trainer.

All the stakeholders identified insufficient monitoring, evaluation and quality assurance mechanisms in Kenya as the reason for the existence of countless certificates offered by questionable training providers. This has perpetuated the sceptical nature with which the TVET graduates are viewed by the industry. Furthermore, inflexibility of the program also shuts out prospective learners who are unable to follow its strict programs, thereby missing out on the chance to upgrade their skills and competencies. This study established that some courses in Kenya, such as those covering the hotel services, are serving the needs of the tourism industry due to the higher level of development in this sector. This is in contrast to the wide gap in training experienced in the manufacturing sector within which the MVRSI falls (UNDP, 2010).

In Kenya, TVET is expected to play a critical role in economic growth and poverty alleviation through the following roles: absorb those students who cannot continue to secondary schools and universities; equip learners with skills that can be used to find jobs and improve productivity; raise income levels by upgrading the skills of existing workers; and provide chances for self-employment and income generation activities (Nyerere, 2009). These activities are expected to develop human capital through reduction in crime rates, youth and women's empowerment, and social and economic mobility. Almendarez (2012, p. 9) argues that human capital plays different roles at micro and macro levels:

> … macroeconomic perspective, the accumulation of human capital improves labour productivity, facilitates technological innovations, increases returns to capital, and makes growth more sustainable, which in turn, supports poverty reduction. Human capital is regarded at the macroeconomic level as a key factor of production in the economy wide production function. From a microeconomic perspective, education increases the probability of being employed in the labour market and improves earnings capacity. At the micro level, human capital is considered the component of education that contributes to individual's labour productivity and earnings while being an important component of firm production. In other words, human capital refers to the ability and efficiency of people to transform raw materials and capital into goods and services and the consensus is that those skills can be learned through the educational system.

Despite these positive factors there are scholars who argue that human capital theory simplifies the relationship between education, economic growth and poverty reduction. King (2010), Tikly, (2003) and Allais (2010) have observed that there are mitigating factors that affect human capital

development such as: political stability, societal issues, economic activities and global competitiveness.

The components of a curriculum need to be fully assessed before training begins to ensure all areas are catered for and addressed in whole. If a particular course curriculum is insufficient in some areas the results may prove harmful to workers when they enter the workforce, as the following illustration will show. Having realised that during construction 43 per cent of all builder's deaths in residential houses were caused by falls from heights, Kaskutas et al. (2010) conducted a comprehensive needs analysis to determine any gaps that might have existed in the training curricula that could account for the problem. This analysis formed the basis of new curricula design changes that prioritised each of the gaps identified where "... specific objectives for each priority described the level of cognition expected on Bloom's taxonomy (knowledge, comprehension, application, analysis, synthesis, or evaluation), which was driven by the nature of the gap that had been identified" (Kaskutas et al., 2010, p. 224). Bloom's taxonomy of cognition processes is a classification of levels of intellectual behaviour that are important in the learning process, which were developed by a group of educational psychologists headed by Benjamin Bloom in 1956 (Anderson & Sosniak, 1994).

An all-inclusive TNA ought to gather data pertaining to gaps in priority areas of quality, access, relevancy and equity, and determine the gaps that can be addressed through training. The MVRSI is particularly vulnerable to frequent changes in technology, with new vehicle models being regularly introduced to the market. There is need to ensure quality of the program by according the trainees practice with emerging technology. Regular in-service and workplace exposure by the trainers ensure relevancy to particular motor vehicle models. Quality training institutions need to be opened throughout the country so that all communities can access training, as MVRSI businesses are in demand everywhere.

The African Union recommends a labour market information (LMS) system and other survey tools to determine the demand for skills for specific countries (AU, 2007). The function of the LMS would be to gather, analyse and make employment forecasts from the following: data produced by employment agencies and government departments from demographic studies; tracer studies that trail the success of TVET graduates in finding employment; economic planners' labour market reports; and employers' feedback. Analytical labour market data can be collected from industry and employer organisations, employment agencies, non-government organisations, and private and public sector employers. The AU adds that training institutions can be encouraged to conduct labour market surveys in their localities, and the information gathered can be used as

contributions for new or revised curricula development. This all-inclusive approach to TNA could possibly be of benefit to Kenya by gathering requisite data from a majority of stakeholders.

Communicating the outcomes of a training needs analysis is essential because the results need to be used to direct training programs. Sommers (2002) suggests four reasons: first, developing and updating curriculum by translating the list of occupations identified into training programs that identify specific skills and knowledge to be taught to students; second, monitoring the industrial human resources needs by spotting changes that may affect decisions and adjustments to the training program; third, providing career guidance by informing learners what careers the vocational training will prepare them for, their interest in those occupations, the prospective earnings and openings and any extra training they might require to make informed decisions; and fourth, collecting and analysing program information on student enrolment, completion rates, tracer studies on graduates and overall management of the VET program.

7.1.1.2 Timing of implementation

Different training programs require different implementation times that are dictated by the training content, available resources and the reasons behind the training objectives. Some courses may take just a few weeks, while others may take some years. A comprehensive TNA guides the training providers on the amount of time needed to cover the curriculum. Competence-based courses that address specific skills and proficiencies require less time than comprehensive programs such as diploma or degree courses. Flexible programs such as evening and weekend classes cater for those trainees who are already at the workplace but would want to upgrade their skills or change them altogether.

Most TVET institutions in Kenya and particularly the public institutions, offer training courses that run for two to three years. Of the four institutions that took part in this study, only the private one offered courses outside the government school term. This institution also offered short duration business courses in addition to evening classes. The programs in the public institutions are regulated by the government and the curriculum is developed by KIE. These centralised regulations and uniform curriculum across the country fail to consider diverse learner needs, geographical and regional variances and particular industry requirements.

The stakeholders in this study criticised the TVET curriculum for its long duration, inflexibility in terms of accommodating new aspects of technology, and rigid requirements for implementation, which is collaborated by government documents such as (GoK, 2003a; 2008b). This situation

contributes to the low enrolment of trainees in the traditional engineering and building courses, whereas that of the applied sciences, and business and commerce courses continues to grow. This state was confirmed by the enrolment statistics found in the training institutions in the country. For example, in INS1, business courses were in very high demand with the classes already over-enrolled, while the engineering courses were not yet at capacity, as shown in Table 7.1.

Table 7.1   Enrolment per department

Course	Gender	
	Male	**Female**
Information and communication technology	286	235
Business studies	175	180
Theology	38	109
Engineering	144	58
Total	**643**	**582**

Source: INS1 (2011)

The shorter certificate courses that last for six months were much more popular, comprising 68 per cent of all the learners. The national examination failure rates for the science and mechanical subjects taken from the same institution was higher (about 33 per cent in the practical examinations) than that of the businesses courses (7 per cent).

As stated above, the duration of TVET courses is determined by the central government and is uniform throughout the country, ignoring the geographical diversity of the country, different skills demands, and needs of prospective trainees. Employers, employees and trainees expressed the need for training outside the normal term dates and times of day in order to cater for full-time workers, mothers and those in the teaching profession who have time only during the school holidays. However, the trainers observed that such changes would require more inputs to cater for the added needs of these trainees, and a reorganisation of the institution's programs. In a related issue, training preferences by primary and secondary school graduates have brought about the cavernous gap between the needs and preferences of young people and the training currently offered by TVET (UNDP, 2010). Young people prefer short duration courses that provide them with a means of livelihood, as opposed to the longer two- to three-year courses, which may have

been dictated by the past needs of the industry. Besides as van Eerde et al., (2008) found out in some circumstances, the hours of training did not have a direct relationship to the organizational effectiveness.

7.1.1.3 Resources required

In Kenya it was established that the government funds TVET through provision of equipment, trainers' salaries, research, monitoring and evaluation in the TTIs, ITs and universities. The students in these institution pay for their accommodation and other services offered by the institution. The cost of training an artisan at the YP is borne fully by the government. To encourage women to enrol in the science and engineering courses, the government meets all their training costs. This funding situation would suggest that the TVET program is highly subsidised; however, the heads of public institutions specified that some students are unable to meet the required payments, leading to drop-outs, or delay in completion of courses by some students.

The education officers indicated that TVET has traditionally relied heavily on donor funding, which has continued to dwindle as funding agencies prioritise the acquisition of universal primary education. The officers considered the amount of funding that public institutions receive from the government as inadequate to meet all the requirements of quality programs. The results have been obsolete equipment and dilapidated facilities, culminating in poor quality instruction and practices. One reason is that the impact of training is assessed based on the general environment, natural and economic resources, the business environment, use of appropriate equipment, demand and access to markets (Kingombe, 2008). Furthermore, competing ontological and political positions; and, diverse conceptions and understandings of the relationship between education and development in societies is marked by gross inequalities (Tikly, 2010). These competing program discourses that revolve around quality involves negotiating conflicting interests in the national and civil societies and which have varied levels both globally and locally (Robertson et al., 2007).

Functioning curriculum designs make use of time and other resources effectively and efficiently to realise maximum benefits. This is because vocational training is expensive, requiring large amounts of consumable materials, expensive equipment and highly trained instructors (Onsomu et al., 2009). Because African governments face competing demands from other sectors and other education programs, a thorough examination of the cost of VET programs is necessary to ensure prudent use of scarce resources (AU, 2007). Major determinants of costing can be: the level of technology, including the class sizes and teaching methods; trainer costs such as salary and housing; the length of the training programs; the drop-out rates; and under-utilisation of training

resources (Tsang & Ding, 2005).

Due to inadequate funding of TVET training, TVET was identified by MOHEST in its strategic plan as a fundamental area to allocate sufficient monetary resources for the program's numerous science, technology and innovation constituents. This was to expedite the execution of program objectives, and to improve coordination instruments in the face of competing demands for the national budget (GoK, 2008b; UNESCO, 2009).

7.1.1.4 Expected rate of return

Inputs into the motor vehicle training program have an effect on the outputs that are reaped by the country, businesses and graduates. The effects of such inputs are mediated through intervening factors such as the wider competitive strategy of the organization because investment in skills does not necessarily equate to higher productivity or better performance. It is therefore simplistic to assume that the relationship between inputs, processes and outputs of education are linear (Tikly 2010) such as the one suggested by Fluitman (1999). Similarly the AU (2006) observes that in the past, the quality of an education program was measured by the quantity and level of investment that was put into it. More recently however, the impact in terms of cognitive and emotional development, as well as the promotion of values and attitudes, has gained prominence. In addition to the input-output relationship, this study acknowledged the inter-relationships among variables such as: the learner background, resource inputs and educational processes and also recognizes that outputs are complex, multi-directional and they vary according to different contexts. This is because the economic, socio-cultural and religious contexts can either facilitate or hinder the learning and teaching process (AU, 2006).

Studies done by Psacharopoulos and Patrinos (2004) over a 10 year period revealed that overall an added year of schooling has a rate of return of 10 per cent. The studies acknowledge the difficulty of assessing social rates of returns because they are influenced by numerous external factors, which are often hard to identify measure or quantify. However, the authors cite two important contributions made by their study: first the review corroborates the 'Education For All' drive especially in sub-Saharan Africa, and second, it strengthens the case for combating child labour; both in terms of the child's physical vulnerability, and also in terms of a foregone investment. Policy decisions have changed in relation to the training and education rate of returns: "No longer are returns to education seen as prescriptive, but rather as indicators, suggesting areas of concentration" (Psacharopoulos & Patrinos, 2004, p. 118).

In more responsive VET programs, businesses would expect to benefit from more flexible, motivated and committed workers, while employees are expected to receive the psychological rewards of being appreciated by their employers (Tsang & Ding, 2005). In Kenya, literature gathered and confirmed from the four institutions in this study indicated that TVET institutions undertake instruction with obsolete, menial and incorrect equipment. Other inputs include insufficiently qualified trainers who do not have workplace experience, poor physical facilities, large classes, insufficient quality control, a sceptical industry and demotivated trainees. Correspondingly, the output is seen in graduates who exhibit incompetency from exposure to the poor training processes. Businesses, therefore, do not reap benefits of improved performance as the graduates do not have the ability to manoeuvre modern and correct equipment at the workplace. In a well-performing T&D program, graduates would ideally bring in superior and improved skills to the industry; but employers who took part in this study complained that they have to retrain the TVET graduates before they can perform their tasks, which is a waste of scarce resources. The country misses out on improved productivity because the graduates do not have the capacity to drive the economy.

The findings of this study point to mixed achievements of TVET in Kenya. According to government reports (e.g. *Kenya Vision 2030*, KESSEP) the program has over the years managed to absorb about 20,000 trainees annually, against an estimated total of over 180,000 primary and secondary school graduates. Although this is a small percentage, it goes a long way to addressing the skill needs of the industry. Yet responses from the industry have questioned the quality of skills because graduates exhibit insufficient competency levels to carry out vital tasks. However, evidence from the institutions under study indicates that TVET delivers a wide range of courses and certificates that cater for diverse trainees' preferences.

From the foregoing discussion, it is evident that a majority of the stakeholders view the processes of TNA as having some serious gaps. This study suggests three possible reasons for the poor training outcomes exhibited by TVET graduates: firstly, inadequate TNA and formulation of viable training objectives; secondly, training processes that are not commensurate with the workplace requirements; and thirdly, insufficient quality control, monitoring and evaluation mechanisms.

Comprehensive TNA can be performed through various means, such as performance analysis, interviews, advisory committees, surveys and questionnaires, tests, observations, document reviews and assessment centres (Brown, 2002; Hauer & Quill, 2011). However, data gathered from the MVRSI training sub-sector indicated a limited means of assessing needs: interviews,

examination results and advisory committees. Since the reach of these methods is restricted, most stakeholders are excluded from this activity, and this could explain the mismatch of the skills acquired and the available labour force needs and opportunities. In addition, even when a TNA has been conducted in Kenya (e.g. the MSE baseline survey of 1999), the results are not adequately communicated to stakeholders to make sense of the happenings in the market, resulting in training processes that are inadequate in scope and practice.

The education officers interviewed explained that the government is expected to supply, either fully or partially, such inputs as training equipment, instructional materials, trainers and physical facilities. Tsang (1999) outlined the benefits that are expected to be accrued from a country's training program when the inputs are correctly aligned to the expected outputs. He defines these in three levels: the trainees would reap benefits such as enhanced cognitive and non-cognitive abilities, boosted chances of finding employment, stability in employment, enhanced job satisfaction and additional career options; businesses would experience less employee turn-over, reduced downtime and increased productivity; the country would experience more economic growth, higher taxable income, reduced rates of unemployment and less social injustices.

7.1.2   Training objectives and curriculum designs

National training objectives provide direction for training institutions and other stakeholders' interested in vocational training. Trainers and education officers stipulated that objectives should be specific, clear and measurable, target the level of training, use course-specific standards and aptitudes, and use diverse categorisation levels. A learning objective is an outcome statement that identifies discernible knowledge, skills and attitudes acquired through job-rotation, a course, or a longitudinal experience (Hauer & Quill, 2011). Learning objectives are derived from the national objectives and are used by trainers in the transfer of knowledge during instruction.

In Chapter 4, the T&D framework that was developed for MVRSI identified five specific areas, to be addressed by the syllabi: delivery of quality TVET, improvement of consistency and management by training providers, improving graduates' employability, promotion of life-long learning, and enhancement of the status and attraction of vocational education. The following sub-sections present a discussion on stakeholders' views, opinions and observations according to these five thematic areas.

7.1.2.1 Delivery of quality TVET

The education officers explained that quality vocational training is an expensive venture that requires suitable equipment and tools; adequate training materials, such as books and training manuals; qualified trainers with experience in the industry; and quality practice by the learners. TVET objectives are expected to address quality training that hinder the development of TVET in the country and recommend for best ways to mitigate T&D obstacles. All the stakeholders that took place in this study acknowledged that funding for TVET for the MVRSI has been inadequate, leading to questionable quality in training. Clear objectives to address the issue of funding the program comprehensively need to be formulated.

Training needs that are identified, and objectives that are formulated thereafter, categorise areas that necessitate updating and revision of curricula to safeguard its relevance and the optimum use of available resources. Information gathered from the institutions show that this area has been neglected in Kenya to the point that the government trades course, which is administered by the DIT, is still using a curriculum designed in the 1980s. The craft and diploma courses use two curricula: one designed in 1982 and the other in 2008. Using outdated curriculum is a failure by the government to set strategies that would link education and training to specific growth paths and prioritising skills and proficiencies that would lead to a more competitive edge (Tikly, 2003). Such strategies have been used to create newly industrialised countries like Korea and Japan.

Duplication of the TVET program and lack of ownership by the line ministries could account for the laxity in curriculum development in Kenya. Education officers supposed that KIE has been unable to regularly update and revise the TVET curriculum due to insufficient funds, poor research and lack of adequately qualified personnel. UNESCO suggests that updating and revising of curricula in most African countries mostly takes place after a major crisis in the labour market or critical problems of graduates' unemployment (UNESCO, 2009). In addition, there is a lack of proactivity in most countries, and the response to curriculum challenges is ad hoc and lacks the capacity to address industry needs.

According to Afeti (2006), transforming a nation's training systems requires an examination of three aspects: first, issues that deal with the relevancy of the program, both within and without; second, the efficiency and effectiveness of a country's training structures; and third, funding and sustaining the programs. Fluitman (1999) notes that reforms usually take place due to a perceived gap in the system or concerns with the status quo and are judged by the manner in which the training structure responds to internal and external objectives. The external demand side of this

equation shows the return on investment that countries can expect to gain from the training program, while the internal supply side is what training institutions do that may or may not meet the labour market demands. This relationship is exemplified in Figure 6.1.
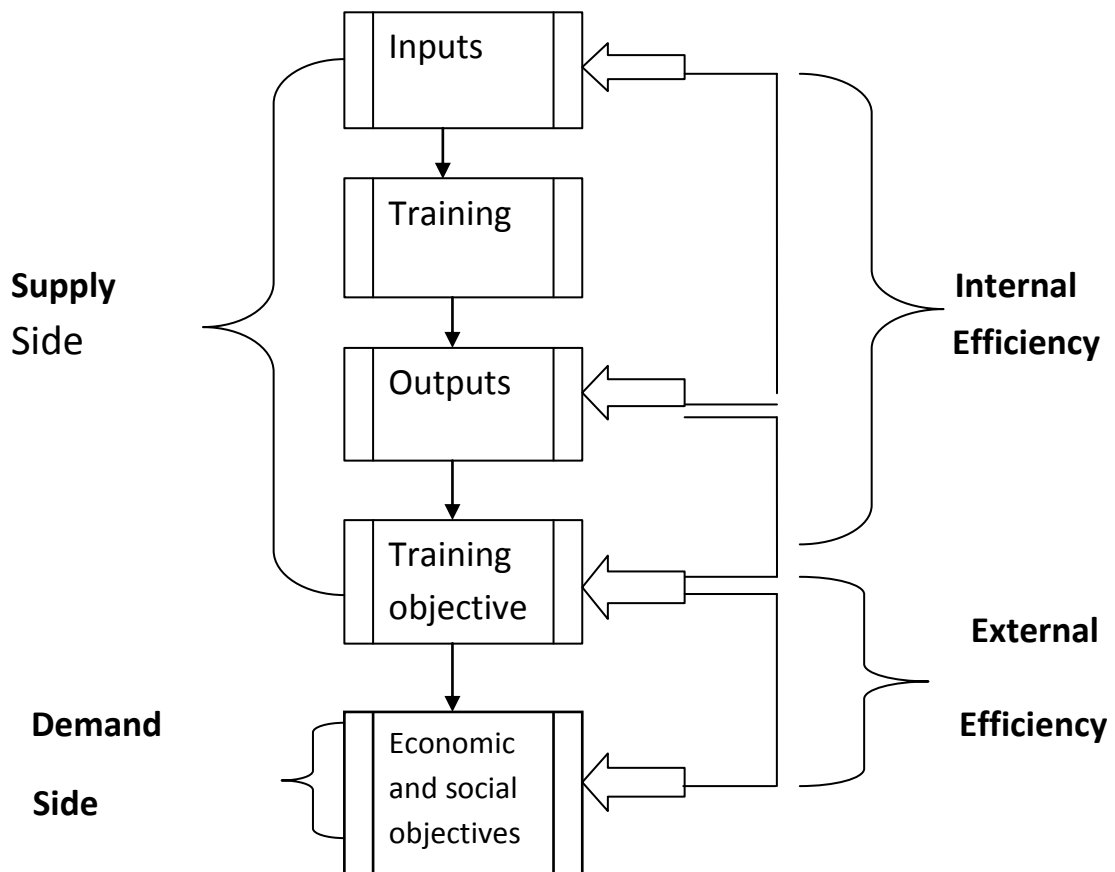
Figure 7.1   Training objectives

Source: Fluitman (1999, p.56).

A training fund based on employers' payroll levies could support skills development. In an unregulated sector like the MSE in Kenya, this could prove a difficult task that would call for concerted efforts to first register the businesses and then convince the business owners of the need to support the levy. Lessons can be drawn from a number of African countries, such as Cote d'Ivoire, Mali, Mauritius, South Africa, and Tanzania, who have introduced training levies that have helped ease the problem of funding (AU, 2007). In addition, in countries such as Germany and France where contribution to training levies is compulsory there is a better inter-firm

cooperation (Cooney & Long, 2008). One suggestion for inter-firm cooperation is that employers want to keep abreast of the industry and to engage in collective bargaining. In Kenya the hospitality industry pays a training levy, and this could explain why it is more developed than the manufacturing-based courses.

Creating linkages between the training institutions and the businesses is a viable option for apt acquisition of trainee as well as the trainer skills. In 2012, the Kenya Polytechnic University College (KPUC) which is now the Technical University of Kenya entered into an agreement with the Kenya Association of Manufacturers (KAM) to facilitate the acquisition of prevalent work skills to ensure that graduates are equipped with current skills and technologies. According to the college's principal, "It is part of the bigger scheme to bridge the troubling gap between institutions of higher learning and industry requirements in terms of the skills imparted on students" (Kairu, 2013, p. 11). Although the few experienced workers with relevant industry knowledge in the MVRSI are in high demand at the work place, they can be inspired to offer part-time training in TVET and participate in the design and implementation of the curriculum.

7.1.2.2 Improving consistency and management of training providers

Education officers and trainers observed that national objectives that guide appropriate, consistent and management practices of the MoHEST training managers and providers ought to be incorporated into the TVET national policies. In addition, the stakeholders observed that solid leadership abilities and professional management practices that are aligned to the national objectives are necessary for successful outcomes. At present, TVET is managed by several ministries, local governments and private providers; this has resulted in confusion, duplication of practices and wastage of resources in the sector.

Consistency of the TVET program is complicated by different curricula with varying training duration and entry requirements that are offered by the providers (Kenya Institute of Curriculum Development [KIE], 2006). Some institutions offer diploma programs for three months, others six months, and yet others one year, which is a big variance from the two years recommended by KIE. The use of foreign curricula and examinations has both advantages and disadvantages. The exposure to the international world and more sophisticated technologies is a positive motivator to the learners because it places them on a par with the technologies of other countries, while at the same time they can continue to enjoy the cultural aspects of their own country. The duration of most foreign courses is suitable to most students because it is short and more flexible than the local ones.

However, using foreign curricula has difficulties because cultural identities differ in how they conceptualise trade, in their outlooks and temperaments, their spoken and non-verbal rationalisation and in their perceptions (Munro, 2007). In addition, an individual's ability to internalise learning is influenced by his community's values, social biases, motivation and other social hierarchies and economic status (Barber, 2004). The search for relevance in learning and training in various cultures is exemplified by the tendency to specify 'desirable' qualities without recognising the traditional influences in their definition and acquisition. For example, in Kuwait, Australian and British vocational institutes face challenges because labour and social aims for Kuwaitis differ significantly from the traditional western educational aspirations that comprise complex ideological issues of culture, history and social status (Bilboe, 2011).

A sound management system of the VET programs in some African countries has been achieved through creation of a national umbrella training body that coordinate training providers, develops standards for training validation, creates national vocational qualification structures and proficiency levels, and accredits training providers. Umbrella bodies usually include key stakeholders, such as employers' organisations, alumni associations, government decision makers, public and private training providers, and development partners. Some of these countries include: Botswana which has the 'Botswana Training Authority' (BOTA), Mauritius has the ''Industrial and Vocational Training Board' (IVTB), Namibia has the 'National Vocational Training Board' (NVTB), Tanzania has 'The Vocational Education Training Authority'' (VETA) and Zambia has the 'Technical Education, Vocational and Entrepreneurship Training Authority' (TEVETA) (AU, 2007).

Strategies that aspire to improve the consistency of training providers need to consider informal training and the issue of certification. The inability of informally trained mechanics to procure formal trade certification denies them a chance to legitimately access formal sector employment where job security, wages and pensions are higher (Barber, 2004). This is despite the fact that these mechanics may be having more superior skills than their formally trained counterparts. Atchoarena and Delluc (2002) found that ignoring the informal sector lead to inherent deficiencies in VET programs and their delivery modes in Cote d'Ivoire. Part of the reason is that the VET programs train a fairly large amount of general content that is not linked to the specific skills needed for the mostly informal local labour markets (UNESCO-UNEVOC, 2008).

7.1.2.3 Improving employability

Since the primary purpose of training is employability, objectives that give trainees assurance of

being absorbed into the labour market are important. Employability presumes the attainment of skills that correlate with the labour market demands. The primary motivation for students' decision to train instead of joining the workforce is to improve their chances of securing employment and raised income levels (Cox & King, 2006). Thus, potential trainees require guidance in their choice of training programs by taking cognisance of their ability and academic qualifications, current and required skill levels, and by analysing jobs (van Eerde et al., 2008). The critical aim in skills development is to match the acquisition of skills and competencies with the demand for such abilities in the industry, because if the trained graduates do not find jobs, joblessness is perpetuated leading to a waste of scarce resources (Johanson & Adams, 2004).

The level of education achieved has a direct link to an individual's employability since secondary and tertiary education raise the opportunity for employability. The relationship between academic education and training is that education develops a student's general employability through emphasising the development of critical and analytical thinking instead of didactic knowledge, whereas training focuses on providing the skills to accomplish a specific task (Cox & King, 2006). Relatedly, Budría and Telhado-Pereira (2009) observed that the more academically qualified persons found the learning activities more beneficial than those with low academic qualifications, because vocational training builds upon the foundation of formal education. Correlated to this, cognitive ability is suggested to have a stronger relationship to traditional learning results (e.g. skill acquisition or declarative knowledge) than to training reactions or post-training self-efficacy (Colquitt et al., 2000). An acknowledgement of the issues that disadvantaged learners experience is necessary to get a more holistic understanding of barriers facing different groups of people in their attempt to access a good quality education (Tikly, 2010).

TVET employment figures in Kenya were not available from MoHEST or MoE during data collection for this study. Trainers indicated that their training institutions lacked the capacity to follow the employment pathways of TVET graduates, citing lack of funds. Available government documents that address unemployment do not provide figures of trained unemployed youth: for example, the UNDP document that addressed skills gaps of the youth indicates that 62 per cent of Kenyan youth are unemployed (UNDP, 2010).

African countries face difficulties in funding TVET due to competing demands in other areas such as health and agriculture (UNDP, 2010). Very few governments in Africa have the capability to finance VET to adequately support quality training and learning (Afeti, 2006). For example, in Ethiopia only about 0.5 per cent of the national budget is allocated to training, in Ghana it is about one per cent, in Mali 10 per cent and in Gabon 12.7 per cent. With the exception of Gabon, the

amount of funding that African governments allocate to vocational education is not sufficient for a quality training system.

7.1.2.4 Promoting life-long learning

National objectives that promote life-long learning acknowledge that skills in the workforce are not stagnant, but evolve in their relevance and practicability. The skills can therefore be upgraded continually through a life-long approach to learning and training in Kenya to ensure the development of quality TVET systems (Wallenborn, 2010). Life-long learning can also assist learners whose earlier training was limited, to enhance their skills and proficiencies. These positive attributes of updating skills were found to be absent in the businesses under study. It will take sensitization, to convince employers and business managers of the need to update and refresh their skills to improve their workplaces.

The myriad TVET programs, with varying contents, training duration, entry requirements and multiple levels of certification, make it difficult for employers to determine employment entry levels for graduates due to the wide range of certificates and diplomas, while local universities face similar complications admitting TVET graduates at appropriate levels. In light of the fast technological changes in the labour market and the industry in general, life-long learning and flexible programs have become key goals of technical and vocational education for linking training to employment (AU, 2007).

7.1.2.5 Enhancing the status and attractiveness of TVET

An important national objective is the promotion of TVET as an instrument for economic empowerment in Kenya by involving all stakeholders in an attempt to change attitudes and perceptions of the society about vocational and technical training. However, TVET in Kenya lacks credible role models that can motivate trainees; it requires a lot of promotion to make it attractive to prospective trainees. Kindiki (2013) observes that part of the reason for the poor perception stems from the fact that physical work is viewed as a chore and often used as a punishment at school. He argues that a more responsive TVET will ". . . will expose learners to productive enterprise and familiarity with tools and practical techniques that will be of use in private life and create better educated people who are more flexible, adaptable, and enterprising in the search for employment' (Kindiki, 2013, p. 16).

The print media occasionally run entrepreneurial articles, for example *The Daily Nation* newspaper ran an article about a successful entrepreneur on 12 April 2012. Such articles are

intended to convey the economic role that manual work can play in a person's life. Further, MoHEST periodically holds entrepreneur exhibitions in different parts of the country, besides participating in regional Agricultural Society of Kenya shows. Although these activities are not exhaustive, they are a small step towards enabling networking among TVET stakeholders, which can lead to improved prominence and funding for the programs.

An individual's perception and belief in their self-worth in the vocational setting, and the degree to which they have faith that they can be fruitful in their endeavours, play an important role in learning. A common view of vocational education that requires review is that it largely benefits students who have a low academic ability and whose primary intent is a rapid entry to employment (Maliranta et al., 2010; Munro, 2007). To help improve the VET students' self-efficacy, therefore, there is a need to acknowledge that the main aim of advancing vocational knowledge is to develop an understanding of an aptitude and advancing this awareness in the perspective of the industry and the workplace, as opposed to the issue of academic capabilities.

Hauer and Quill (2011) advise that, although an indication of performance measurement can be included in the country's national objectives formulation, it ought not to be restricted to those skills that can be readily assessed behaviourally, but also include aspects that have to do with higher order thinking, problem solving, value acquisition and interpersonal skills. Once objectives have been formulated, they can then be used to determine other components of the training system, such as curriculum content, training and learning approaches, monitoring and assessment methods, and the efficacy of curriculum. Education officers suggested that electronic, print and sound media can also be effective in promoting TVET activities and practices, as are business and management forums that promote vocational training. Other possible avenues suggested by trainers were the showcasing of innovative exhibitions to display successful activities carried out by the TVET trainees and graduates, and running television and radio shows.

7.2   Training activities

In section 7.1 above, views from the stakeholders indicated that there were pertinent areas of concern. These included: quality of the training institutions, training materials and instruction guides, trainers, trainees, methods of skill acquisition and socio-political factors. In the next section is an interpretation and discussion of the stakeholders' views of the second phase of a T&D model: the training activities based on five key areas that were derived from the concerns expressed by the stakeholders:

- training institutions (types, locations and the quality of their equipment)

- the curriculum implementation (content and methods used in training)

- quality of trainers (their training and in-servicing)

- trainees' types (choices and quality of graduates)

- sociopolitical factors impacting on TVET.

Each of these areas is described in detail below.

7.2.1   TVET training institutions

Most stakeholders noted that there was inequitable distribution of training institutions in the country, which posed a problem of accessibility for many potential students. Most of the institutions were located in the urban areas and high economical potential areas of the country—where the population was high and poverty levels low. This inequitable distribution of institutions had led to a focus of skills that were largely unsuitable for the underdeveloped areas of the country (for example the arid, northern part). Evidence gathered showed that only the YPs were spread throughout the country, whereas the two NPs were in the two largest cities: Nairobi and Mombasa (GoK, 2003b). Most of the TTIs and TIs were located in the big towns, and almost all private institutions were in the urban towns. Institutions located in the rural areas were characterised by low enrolment due to poor infrastructure and low incomes among the population (UNDP, 2010). Findings in this study revealed that it was not convenient for the youth to enrol as day scholars in the training institutions due to lack of a reliable transport network and the long distance to the institution for most would-be learners.

The informal sector in Kenya was characterised by the need for self-employment, which emphasises the need for the acquisition of skills that enable the graduate to perform the job irrespective of the procedures and precision. Training was offered by providers who may or may not have had any formal qualifications, some of whom acquired the expertise through the same method (Wachira et al., 2009). Respondents from the industry admitted that their pedagogy was restricted to learning on the job and comprised 'trial and error', centred on implicit trainer knowledge. Progress and capability was dependent on the competency and the level of instruction offered by the trainer, and the ultimate aim was to enable the trainee to work unsupervised. This study found that anyone who was interested could start a training program because this sector

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lacked standard requirements for accreditation, trainers' academic qualifications, minimum facilities and type of curriculum.

VET in Kenya, as in many other countries in Africa, is provided both by the public and private institutions, which include profit-making training businesses, non-profit institutions such as the NGOs and church or faith-based organisations. However, most vocational training in Kenya was done by government institutions that cater for a larger number of trainees compared to the private institutions. For example, of the total enrolment in the YPs that were spread throughout the country, 75 per cent of all learners were in the public institutions (UNDP, 2010). The number of vocational training institutions was distributed as follows: two technical training universities; two NPs, seventeen ITS, twenty one TTIs, the KTTC and over 600 YPs (GoK, 2005). This extensive network of government institutions differed from other African countries where the private sector took a larger share of the total training provision in the country (for example, about two-thirds in Senegal) (AU, 2007).

According to one education officer, the YPs had the largest network of any type of vocational institution in the country. They had a long history, having been started by the National Council of Churches of Kenya in 1968, and then taken over by the government in 1971. The core aim of establishing them was to equip the youth with vocational, technical, entrepreneurial, and life skills based on appropriate technology for employment creation and sustainable livelihood (UNDP, 2010). Although they were found in most areas of the country, this study was informed that the YPs had been run down in subsequent years, due to poor management and government neglect. Over the years the YPs had been placed under the responsibility of several ministries, such as Education, Culture and Social Services, and Human Resources Development, which had seen them sidelined and left under the management of local communities, religious and non-governmental organizations. In an attempt to revitalise the YPs, the government established the Ministry of Youth Affairs (MOYAs) in 2006, which gave them a new lease of life (UNDP, 2010).

In 2010, private vocational institutions numbered more than one thousand, most of which offer training in computer studies and commercial and service skills, such as secretarial duties, hotel management, tailoring and dressmaking, which do not entail a large investment to provide (UNDP, 2010). While there were many good practices in some private training institutions (for example the religious-based organisations) in Kenya, many stakeholders claimed that most institutions were more interested in money-making than the provision of quality education. One trainer alleged that the private institutions preyed on the desperation of unemployed people by offering sub-standard training. However, some private institutions, such as the one that took part

in this study, were well funded and had far more superior equipment than did the public institutions. Trainers and education officers observed that in a country that had very few quality training institutions, there was a need to encourage more private enterprises to offer quality vocational education training.

Public institution trainers and managers conceded that inadequate funding to the institutions had impacted negatively on their quality of training. The government had the responsibility of funding public VET programs, but with difficult economic conditions, funding had been difficult to source. With the lack of external financial support and limited government funding the public training institutions relied on student fees as the main source of funds to sustain their programs. Student fees had proved to be largely insufficient because most trainees experienced financial difficulties.

Most respondents from the industry noted that informal training was popular because it was self-financing and did not require much funding. Hans (2002) found that in Africa, apprenticeship training was more operational than pre-employment training because it was closely linked to the workplace. Employees reported that informal training was occupation-based, practical-oriented, less costly, more flexible and less time consuming.

As stated above, public TVET institutions were absent in the remote areas of the country. Since one of the objectives of vocational education was to alleviate poverty by engaging the youth and creating employment, the inequitable distribution of training institutions further perpetuated the poverty found in these marginalised areas of the country. There was great potential for training in the YPs because they were located in almost all areas of the country. To serve these rural communities, Tikly (2010) recommends for research that seeks for more inventive ways and methodologies that "can actively include the voices and perspectives of the marginalised including the poor, rural dwellers, indigenous peoples, religious, linguistic and ethnic minorities, girls and women, learners with disabilities, victims of HIV, AIDS orphans and vulnerable children" (p. 20). The research would enable a better understanding of the experiences of each of these particular groups, which would aid in shifting policy and dialogue to address their needs and interest more accurately way.

7.2.2 *Curriculum implementation*

Curriculum implementation transforms the curriculum objectives and designs into skills needed to boost the industry by transfer of skills and competencies from the trainers to the trainees through

the formal institutions. It is a crucial stage requiring the input of many stakeholders including the institutions, the industry, the relevant ministries and the trainees themselves.

Respondents in this study rated TVET training in basic skills as satisfactory, especially when compared with the informal training. Most of the employers were satisfied that their formally trained employees exhibited far more superior communication, ethical and value judgments compared to those without a formal training. This was especially so in the ability of graduates to transfer the theoretical knowledge gained to new technologies. The formally trained graduates' interpersonal skills were also rated as superior to their colleagues with informal training. This corresponds with Kitainge's (2003b) findings that TVET lays a substantial emphasis on social skills that enable graduates to attain the necessary managerial, interpersonal and ethical capabilities at the workplace.

Practical skills are an essential part of the small enterprises in the small motor vehicle repair garages in Kenya. In Chapter 2, it was revealed that TVET graduates are expected to possess both practical and theoretical skills. Yet the lack of adequate exposure to new models of engines and parts, as evidenced in three out of the four institutions surveyed, renders them deficient in manipulative skills. A UNDP report in 2010 revealed that many YP trainees earmarked for attachment missed out on places, and most of those who were placed did so in the informal sector or *jua kali*, where the equipment and technology were inadequate to effectively expose them to the 'real' world of work (UNDP, 2010). Most trainees acquired practical experience during industrial attachment that was expected to last for 3000 hours. Because most industries were found in urban areas, learners in institutions in the rural areas faced an extra burden of looking for accommodation in the towns during attachment. Those who could not afford the accommodation were then forced to abandon industrial attachment all together.

As identified in Chapter 2, TVET training has different levels that are offered in YPs, ITs, TTIs and NPs. The artisan course takes two years; the craft and diploma course takes three years, and the technical degree course takes four years. The informal training depended on the trainees' initiatives and the trainers' inherent skills, lasting for any time between six months and two years. While the short duration of informal training was seen as a favourable factor by some employees, others chose the training for its ability to include all trainees irrespective of their academic capabilities. Informal training provided an opportunity for acquisition and continuous upgrading of skills and knowledge at the pace and ability of the trainees. In addition, it gave one a foundation for formal training or for a trade certification if one opts for that route. Barber (2004) identified other advantages of informal training for the MSE sector: workers cultivated skills to

suit the limited infrastructure and tools; they developed a high level of innovative practices; they learned to work under difficult and trying situations; and they acquired social skills suitable for the conditions at their workplaces.

Skill acquisition, especially in technical areas, was closely tied to the provision of funds to the institutions that provided training to the sector. Scarce funding of this sector was a major cause of inadequate trainee exposure to modern machines and technology. Despite the emphasis of skills formation as a vital area of concern, the only 2.4 per cent fund allocation identified in Chapter 2 is a contradiction. The sector lacked a mechanism for involving the industry, whereby a training levy would augment government funding. Kenya could learn from some countries in Africa that have created skills development funds based on training levies imposed on enterprises and which are intended to support up-skilling and retraining of workers (AU, 2007). It has been observed that MSE employers have high, and sometimes unrealistic, expectations of the standards that graduates of formal training would, or could, have acquired (Skinner, Saunders & Beresford, 2004). Although this observation was in the United Kingdom, findings in this study suggest that the Kenyan MSE had similar expectations despite the fact that they did not participate meaningfully in the TVET program.

Inadequate practical exposure in the formal automotive training presented one of the biggest drawbacks to satisfactory curriculum implementation and the transfer of skills from the institutions to the workplace. This was corroborated by the GoK (2003), which noted that the greatest challenge facing curriculum implementation was the absence of significant and harmonised linkages between vocational training institutions and the industry. Learners were left to look for their industrial attachment which some never find (GoK, 2003b). Industrial attachments posed a challenge not only in Kenya, but also in industrialised countries such as Australia where the trainers were not only considered as ignorant and lacking experience of workplaces outside the institutions (Dalton & Smith, 2004), but also confronted difficulties in locating appropriate work placement sites for their trainees, monitoring those trainees and sustaining the relationship with the businesses for future work placements (Dolheguy, Smith & Dalton, 2004; Malley, Keating & Robinson, 2001).

Authors such as Wargonhurst (2002) and Wallenborn (2009) observed that skills acquisition (such as basic literacy, technical and interpersonal skills) is the ultimate aim of any training system. Education and training are two intertwined mechanisms through which any economy nurtures its labour force with the view to producing necessary technical and generic skills required in various sectors of the economy. In particular, vocational training was expected to nurture creativity,

critical thinking, and produce innovative and adaptive human resources with appropriate skills, attitudes and values for wealth creation, employment and prosperity. Although basic education in primary and secondary schools played a key role in laying the basis for skills development, real skill training took place in the tertiary education level in the TVET institutions, other tertiary-level colleges and universities.

Technical skills were crucial in the MSE because most of the work was practical, such as fixing parts that were dysfunctional, engine servicing and spray painting. Observations made in this study revealed that these MSE rarely dealt with assembly of cars or manufacture of parts. As such, MSE dealing with MVRSI did not attract the higher levels of TVET graduates, such as technologists, who had more analytical than manipulative skills.

In addition to technical skills, TVET institutions also trained basic literacy and interpersonal skills. Employers found that the motor vehicle graduates had good interpersonal skills, possibly because they were taught business planning, communication, social ethics, entrepreneurship and project management. In addition, three of the institutions that trained the second level of TVET (craft certificate) had computer laboratories. Basic literacy skills, which encompass the ability to read and write, and also computer literacy skills, were an integral part of business management and communication and, with the increasing globalisation of the industry; these skills continue to be needed. Most of the employers responded that they valued these basic skills in the motor vehicle sector because they enable their workers to access business deals.

Interpersonal skills involve transferable generic skills, and although these may not be specific to an occupation or an industry, they are essential in workplaces, education and for daily living. In addition, vocational practices regularly involve ethics, morals and values. As noted above, employers value workers who possess broad generic competencies that include: access to a wide range of pre-employment education and training; training opportunities for professional development; job flexibility and enrichment; and effective contribution to life challenges (Prentice, 2001).

The need for multi-skilled workers, capable of acquiring new skills quickly had transformed VET from its traditional objectives because technical trainers are expected to produce a new type of worker. This is the 'knowledge worker,' described by Kogoe (1985) as someone who, because of their superior decision-making skills, maintains a high level of motivation and self-esteem, is a team player, is more entrepreneurial than other workers, and is able to select the most effective approaches to the workplace and working environments. In this respect, employers suggested that

policy makers needed to expand and redesign the skills taught in vocational institutions to improve the educational and skills limitation that some graduates display when they enter the job market. The VET institutions' aim is to provide broad skills and general competences rather than limiting the focus to particular vocational knowledge and competences (Budría & Telhado-Pereira, 2009).

Business skills that enable a person to effectively run an enterprise are a prerequisite to an entrepreneurial culture, and this study found that training institutions were offering them. This business-skills training was found to positively contribute to graduates' employability and competency in the workplace. According to Ladzani and Vuuren, (2002) the ability to formulate business plans and demonstrate financial, marketing, operational, human resources, legal, communication, and general management skills are necessary to enable businesses to operate in a competitive market. Thus, a sound vocational competency requires a sound background of general education, appropriate attitude and other interpersonal characteristics, adequate business information, and specialised knowledge and skills (Mndebele & Mkhweli, 2007).

The African Union (AU) ministers of education observed that for VET to successfully support industrialisation, economic growth, wealth creation and poverty eradication, skills training must be operative and adaptable to the emerging technological context (AU, 2007). In addition, the increasing influence of the global economy in the Sub-Saharan region of Africa was an indication that there would be a growing dependence on skilled low-cost labour in order to ensure development of people and economies (Kraak, 2005). These skills could be acquired through a cost-effective training program targeted to meet the needs of the people. Training and skills development are requisite investments for individuals, organisations, the labour market and the economy, especially those of developing countries such as Kenya (Johanson & Adams, 2004). Moreover, while investing in people's skills was investing in their future, training and skills development was an important step towards poverty eradication in the Sub-Saharan African region (Cunningham & Sydhagen, 2007).

7.2.3   Trainers

Secondary data indicated that several trainers in the TVET institutions were not adequately qualified to impart the requisite skills to the learners for the Kenyan industry. Further the capacity of trainers in TVET institutions to carry out research was low; as a result they could not adequately impart research skills to the trainees. Some of the professionally trained staff members migrated from this sector to others and even to some other countries that had more attractive work

terms and conditions. Those who remained in the institutions operated other businesses to supplement their low earnings. Trainers complained that capacity development was not well established as the only institution mandated to do professional development training had changed its core function to that of competing against other institutions for the many business courses that had been introduced in the country.

It was established by this study that some instructors were not trained in teaching methodology, while others had qualifications that were on a par with their students. For instance, data from the 2003 rapid appraisal document indicated that a majority of the instructors at the YPs had low academic backgrounds and had received no teacher training, despite their role in imparting skills (GoK, 2003b). The document also notes that, whereas most of the trainers in TTIs and TIs were professionally trained as teachers, their qualifications were of a technical diploma level, yet they were expected to teach up to the same level. Those who took part in this study expressed willingness to train further but were not able to, due to lack of scholarships to help them advance their qualifications. Those who wanted to train at university encountered a further problem of an inflexible curriculum with courses only taught during the day and mostly during their trimester teaching time. The full-time university programs created problems with their own teaching schedules because the university and the vocational institution teaching and learning programs ran parallel. Due to acute trainer shortages, MoHEST found it difficult to release the available trainers to attend full-time studies as that would distort the academic programs (UNESCO, 2009). Trainers and instructors who took part in this study stated that they had few options in skills upgrade: "We either enrol as full-time students at the university with reduced or no salary, or continue training without any advancement," (TSN4); a majority of them choose the latter. The TVET instructors needed to stay current in their technical areas, yet most of them for lack of an alternative choice, undertook degrees that were not technical, but which had flexible timetables and were offered outside the instructors' teaching time, like masters in business administration and entrepreneurship. In addition, a number of the instructors at the YPs were training without attaining recognised teacher training courses. Instructors required professional development in instructional methodology and pedagogy that could be provided through specialised workshops (UNDP, 2010). Lack of tangible relationships between VET institutions and local universities presented barriers for instructors' professional advancement in technical fields (Mupinga, Busby & Ngatia, 2007).

Normally, VET trainers are expected to possess skills, qualifications and expertise that are superior to their students. In addition, trainers are instruments of change—meaning that they must

stay abreast of technical and transformative global changes. The role of the trainers further encompasses not only training in skills and knowledge, but also making significant changes related to values, attitudes, outlooks and perspectives (Hodge, 2010). The teaching force is largely demotivated and lacks requisite skills needed to play expected roles competently.

In response to trainer skills' gaps, Kairu (2013) reported that the KPUC created linkages with KAM and had put in place the following three mechanisms to address perennial problems of trainers:

- Three months industry-based training for lecturers with the aim of equipping them with current skills so that they can readily adapt their teaching to developments in the industry based on tangible experience.
- Inviting industry professionals to give lectures at the college regularly
- Motivating the industry professionals to do part-time teaching in the college
- Having at least a third of KPUC's lecturers made up of practising professionals in the industry.

The KAM chief executive officer observed that this cooperation between the university college and the industry was expected to enable the learning institution to meet its mandate of imparting skills that are relevant to the industry, so as to effectively support industrialisation and the *Kenya Vision 2030* (Kairu, 2013). This kind of cooperation is encouraging, because it is a proactive way of addressing a problem that is a threat to skills acquisition.

7.2.4   Trainees

According to the education officials, TVET attracted learners for various reasons, such as failure to obtain a public university admission, low academic achievement, high cost of self-sponsored university courses, genuine skills' interest or due to their parents influence. Some learners who had the ambition to continue with their education but failed university entrance used TVET as an alternative route to higher education. Maliranta, Nurmi and Virtanen (2010) argue that the aim of VET is not only to improve the skills of the workforce, but also to give general eligibility for polytechnic and university studies. In addition, some trainees joined post primary VET training such as the YP after completing their primary schooling. UNESCO-UNEVOC (2007) gives the reason for enrolling to these institutions as: rapid expansion of primary schools that leads the demand for secondary school exceeding available capacity, failing to meet the entry qualifications for the next education levels, high cost of attending secondary school and the desire to join the informal labour market.

Employers and employees voiced their disappointment with the ignorance of a large population of would-be adult learners who were either at work, or were caregivers. This cohort of potential learners would require appropriately flexible instruction that would enable them to continue their other duties while studying, through a timely, well-organised program that would build on their skills, proficiencies, and easily applicable to their specific circumstances. However, the introduction of vocational education with emphasis on adult learning principles, competence-based training and non-curriculum-based frameworks, would provide significant challenges to the trainers and would require a tangible shift in pedagogical emphasis (Dalton & Smith, 2004; Fogarty & Peter, 2004).

The age of the learner is an interesting factor in training and, currently, classes contain a mixture of young people and mature-age. Maliranta, Nurmi and Virtanen, (2010) found that the probability of younger students gaining entry into employment is higher, while that of dropping out is lower when compared to their older counterparts. With regard to job-related skills and productivity, however, Budría and Telhado-Pereira (2009) did not find any significant difference among the various age groups when it came to the type of vocational training chosen. However, they noted that older graduates (those over 25 years of age) found the training program less beneficial when looking for employment. This information is important in the recruitment and advertisement of potential trainees, and in counselling them about the opportunities in the job market.

This study suggests four significant factors to explain the present trainees' situation in the TVET in Kenya. Firstly, the structure of the MVRSI curriculum caters primarily for school leavers, leaving little room for other potential students, such as mature-age students. There was no evidence of part-time, distance, online or evening classes (except for a few business courses) in the public institutions. This inflexibility had hindered access to those in paid employment and those with home responsibilities who had an interest in the training.

Secondly, most learners were expected to meet the cost of education themselves, and although EO1 held that TVET was highly subsidised by the government, it was difficult for Kenyans who lived below the poverty line to access formal skills training without an additional subsidy from the government or financial support in the form of bursary, scholarships or loans. However, as King and Palmer (2006) contend, there is no point of offering scholarships to students to merely secure a place in a poorly equipped vocational institution. Moreover, the authors argue that because of the enormous temptations to skew allocations to undeserving trainees, managing national scholarships and bursaries would imply formulating dynamic testing strategies and

articulating scrupulous meritocratic measures.

About 98 per cent of trainees enrolled in TVET institutions that took part in this study were self-sponsored, with very few receiving government support (only YP students and females in technical courses), a situation that condemned the poorer segments of the population to higher poverty because they could not access the labour market without the requisite skills (UNDP, 2010). Hans (2004) observed that there was a general feeling that training fees in most African countries were at their maximum and possibly already too high for the majority of the youth, whose purchasing power had been highly affected by stagnating or worsening economic conditions. At the same time, there were indications that trainees and their families felt the results from the training in terms of employment do not justify the investment in current training fees.

Thirdly, parental background and characteristics played a major role in determining the learners' choice of study. Those parents with a higher level of education influenced their children's choice between employment and further studies, with a significant decrease in the former and an increase in the latter. The important role of student background characteristics, including their performance in school as well as their parental background in creating the prerequisite skills for further success, was noted by Maliranta et al. (2010). In addition, learners whose parents had a higher income had a corresponding higher employment and a lower drop-out probability.

Fourthly, accessibility for vulnerable groups like women continued to be a challenge in TVET where their facilities and motivation were lacking. They were largely unrepresented in the traditional male-dominated courses, preferring to take the traditional female courses like cookery and dressmaking. Females also lacked role models in the industry and even the few who persisted and entered the job market, felt alienated as they had to grapple with ridicule and uncertain job prospects. In a study in post-school outcomes in VET, Maliranta et al. (2010) observed that male graduates were 4.7 per cent more likely to get a job than were female students, whereas female students more frequently continued with their studies. In addition, local business conditions affect the outcomes of men more than those of women because inadequate equipment at the workplace made work more physical and difficult to do.

This study makes the following observations in learner quality and enrolment figures. Employers and employees wanted a flexible TVET system that caters for apprenticeship training enabling more learners to earn certificates while still at the workplace. This is because "apprenticeships and traineeships are not just about training; they are employment contracts as well as contracts of training" (E. Smith, 2007, p.460). Therefore, an employer who engages a trainee is actually

making both recruitment and training decisions. Trainees, especially those less academically endowed, preferred more practical work learning which they viewed as more relevant to the workplace. In a comparative study on challenges of construction worker's fall prevention, Kaskutas et al. (2010) found that apprentices clearly articulated their preferences for demonstration through hands-on training and reality-based training, rather than class-based training, which they viewed as less relevant. Further, in other research it has been observed that students learned through a multi-sensory approach in which they watch, listen, touch and talk about the things they are learning (P. Smith, 2006)—an approach that caters for different students' learning preferences.

Education officers, employers and employees observed that TVET was largely viewed as the route for those who were less intelligent, a view that lowers the attractiveness of the program. The AU recommended the use of role models and the involvement of successful entrepreneurs in motivation campaigns, especially in schools to change the perceptions and attitudes of the public. This would help advance TVET as a valid passport to a good job, no longer as a second choice or the only route for the academically less endowed. Changing attitudes and values of the learners and would-be learners present an area that requires exploitation by all stakeholders in all areas of vocational education and training. According to Munro (2007), it is the beliefs about the importance of skill acquisition that define vocational contexts and the extent to which individuals believe they can be successful in areas of human endeavour.

Although the Kenya government upgraded two NPs to university status to offer technical degree programs, a majority of the stakeholders who took part in this study still viewed vocational education as a 'dead end' because they were not aware of advancement options. From the interviews and discussions held with the respondents, it emerged that there was a lack of knowledge of educational upward mobility. Life-long learning, where there was an articulated route from one level to another, was a possible strategy to overcome the poor view of TVET and possibly encourage more quality trainees. The focus of life-long learning is to enable workers and trainers to adapt to workplace changes and the labour market to facilitate personal development, active social engagement, and independent interaction (Hyslop-Margison & Graham, 2001).

Findings of this study indicate that, in particular, women are under-represented in technical areas of skills training. Kenya was one of the 108 member states who were signatory to the Millennium Declaration of September 2000 which adapted eight goals that aim to tackle identified development challenges by 2015, and whose third goal was to "Promote gender equality and empower women" (UNDP, 2010),. It was observed that one of the core areas that could empower

women was vocational education because the acquisition of job-related skills and competencies would enable women to enter the workplace and improve their economic status. Where one section of the population is left out of relevant training, then disparities would always be felt in program implementation and its results. For instance, this study revealed that course entry requirements for most of the courses in craft and diploma were revised downwards for women because their enrolment numbers were too low. Although this was a small step in addressing gender inequality, it increased the enrolment of women. In addition, the establishment of the Keriri Women's University of Science and Technology, which trains women in science and technology, is a positive affirmative action because it offers young women a chance for creativity and innovation, which are essential elements of employment (Mwobobia, 2012).

7.2.5 *Sociopolitical factors.*

Management of TVET institutions was spread across different ministries: for example, during this study the YPs were under the Ministry of Youth Affairs, the National Youth Service training centre was managed by the Office of the President, while Utalii College was under the Ministry of Tourism and Development. Coordination of training activities and maintenance of training standards was difficult under multiple managers, which lead to duplication of efforts, conflict of authority, under-utilisation of training facilities, unnecessary competition and costly, irrelevant training programs (GoK, 2005).

One possible reason for the lack of a unifying body was the inadequate government support for the TVET sub-sector. Prior to 2005, TVET had not been offered a stable ministry, and the frequent changes took their toll on the quality of its functions. Between 2005 and 2010 MoHEST had been placed under four different ministers who each exhibited different priorities, resulting in more confusion and conflicts. As noted in Chapter 6 the TIVETA policy that was advanced as early as 2003 was still awaiting Cabinet approval and since by January 2011 MoHEST did not have a minister, this policy was not likely to be implemented promptly.

In Chapter 6, it was noted that trainers felt that being a political leader was a prerequisite to wealth accumulation, whether legal or otherwise. Due to the influence that the political leaders had in the institutions, they were always on the look-out for vacancies and managerial positions in learning institutions to reward their acquaintances, irrespective of their suitability to the role. In addition, other trainers complained that most of the land that had been set aside for the expansion of public facilities was routinely allocated to political leaders. This was aggravated by the biggest culprits—the local authorities, who were expected to be the custodians of public resources. Thus,

land that was meant for the expansion of the institutions was in the hands of individuals, making it difficult to construct important training facilities such as industrial incubators and workshops.

Lack of a unifying body to run the TVET program had left the sector largely fragmented and susceptible to infiltration by poor-quality training providers, inadequate mechanisms for quality control, and lack of monitoring and evaluation. Having realised that this problem was prevalent in most of its member countries, the AU recommended that the goals of VET were best achieved by the presence of a national VET policy framework that would be linked to other national policies on education and training at all levels, as well as industrialisation and employment creation, and national socio-economic development in general (AU, 2007). This would help to create room for possible dovetailing of existing regional and international education and training policy frameworks and their modus operandi. This is because issues that impact on the global and regional agendas and the state's and private sector's role in providing access to a good quality education is tied to a wider context that embodies ". . . the historical legacy of colonialism, the nature of the quality gap and of educational inequality and disadvantage, the role of education in relation to national and local development priorities" (Tikly, 2010, p. 16). These considerations are important for policy makers involved in education quality and to informing social justice and to guide future policy decisions.

Policies and procedures that were put in place with a political agenda may affect the training either positively or negatively. The fact that the TIVETA policy has been overlooked since 2003 necessitates urgent government intervention; but the high turnover of ministers in MoHEST derails any possibility for cabinet debate of the policy. Hans (2002) observed that if training for the vocational education sector was to assume meaningful proportions, it was reasonable to first address policies and practices which trigger training or impede it.

In Kenya there had been an inclination for policy makers to respond to external pressures (for example, attainment of universal primary education, millennium development goals etc.) as opposed to local internal dynamics (Mitullah, 2005). The external pressures were sometimes triggered by internal conditions (e.g. poverty, insecurity or political instability), but employers and trainers argued that this did not justify the exclusion of key stakeholders in determining policy directions affecting a whole industry. Social and political issues affecting skills training and transferability from training sites to the workplace is exemplified by the challenges encountered in South Africa's attempt to develop robust and coherent skills in the context of poor job security, insufficient social security, and the high levels of inequalities experienced by different segments of society, emanating from the apartheid political system (Allais, 2012). This

is because, despite the creation of new institutions and educational systems, skills development has failed to lead to an increase in the numbers of skilled workers.

The proposed T&D framework has three sequential phases, the first and second which have been discussed in section 7.1 and 7.2 respectively. The third phase is the training evaluation that will be discussed in the following section, based on Kirkpatrick's four levels of evaluation—reaction, learning, behaviour and results.

7.3   Training evaluation.

In Chapter 2, four models of training evaluation were discussed and Kirkpatrick's four-level evaluation model was found to be the most widely used in academic circles and businesses, mainly because of its simplicity, completeness, clearness and ease of use (Yun-Tsan, Shui-Chuan & Hsiang-Ta, 2011). It tests four levels of evaluation: reactions, learning, behaviour and results. The reaction level measures how much the students enjoyed the program; the learning level evaluates the amount of information absorbed by the trainees during and after the training; the behaviour stage tests the transfer of knowledge, skills and attitudes to the workplace; while the results level measures the effect of the training program on the overall organisation's performance (O'Toole, 2009). Together, reactions and learning criteria evaluate what occurs within a training program and are therefore considered to have an internal focus; behaviour and results criteria are considered to have an external focus because they evaluate what happens outside the training program and are likely to be influenced by other outside factors, such as economic or social dynamics (Praslova, 2010). In this section these four levels of evaluation will be discussed based on the key stakeholders' perspectives.

7.3.1   Reactions

As identified above, this level of the evaluation framework measures customer satisfaction in the training program by evaluating trainee's feelings and opinions. It is at this level that the trainees voice their judgment of the program and also recommend whether future training is necessary.

Employees who had been trained in the formal TVET institutions in Kenya expressed varied levels of satisfaction with the program. Although they faced challenges with the level of practical skills imparted, they valued their theoretical knowledge as it enabled them to diagnose car problems—an exercise their counterparts with informal training found challenging. Education officers and the MSE employers felt that the program was essential to the workplace and that with some improvements it would be satisfactory. Trainees evaluated the program as satisfactory, but

they suggested numerous ideas on how to make it better.

The reasons for the mixed reactions of the stakeholders are based on their experiences, both at the workplace and in the training institutions. Most of the negative reactions were concerned with the quality of training, which was influenced by the insufficient equipment, the competency of the trainers and the content of the curriculum. Further, the poor perception of TVET as a last choice for those who are academically challenged, coupled with the knowledge that they did not receive adequate practical know-how in their institutions, led the graduates to suffer from low self-esteem when they entered the workplace.

7.3.2   Learning

Learning is measured during training and refers to attitudinal, cognitive, and behavioural changes; it aims at understanding the learners' grasp of instruction, ideologies, knowledge, ideas and skills (Kay et al., 2004). It is usually measured by written and practical examinations, which test the level at which the trainees have retained what they have been taught.

Employers commended TVET for producing graduates with special interpersonal attributes of communication skills, innovation, professionalism, teamwork, respect to others and work safety consciousness. Graduates, however, faced challenges in practical and technological skills practice when they entered the workplace. This was because appropriate equipment was missing at the MSE, while at the large garages the graduates were confronted with technology that was too advanced for them to operate.

Formally trained employees cited another problem whereby some of them were conducting tasks that they were not trained in. In these instances, their pay was reduced because they were considered untrained. This usually occurred in the areas of vehicle spray-painting and electronics work, which were considered specialised but which lacked enough trained personnel to perform. This problem was also observed by Groot and van den Brink (2000) who noted that a significant proportion of the workforce in western economies works in jobs that are not commensurate with the skills acquired in training. This results in employees receiving less pay, being less productive and having reported lower levels of job satisfaction compared to those who are utilising skills in which they were trained (McGuiness, 2006).

Data gathered for this study identified the following factors that influence TVET learning:
- inappropriate materials and equipment
- employment

- curriculum
- accreditation.

These four areas are discussed in the following section.

Inappropriate materials and equipment: Data from this study established that training institutions used aluminium and plastic in their training, while most firms were still used traditional materials such as iron, steel and timber for training and production of goods. In other instances, prescribed detergents were not available at the workplace. The TVET graduates' unfamiliarity with the materials found in the industry was confusing because they had to re-learn their skills in order to be proficient with the new materials. Furthermore, the MSE industry in Kenya lacks most of the equipment needed to comprehensively carry out tasks in its jurisdiction.

Employment: The proportion of all graduates of YPs and VCTs who either work in the MSE industry or opt for self-employment in similar situations is 80 per cent (UNDP, 2010). The government has recognised the vital contribution of the MSE sector to the employment of TVET graduates in its economic survey. The survey observed that the ease of entry into the MSE sector had made it a fall-back option for those who left the training institutions because they waited to join the larger industries, and for those leaving their regular jobs through attrition (GoK, 2010a). The survey therefore suggested various ways of equipping the MSE, for example with the provision of low interest loans or establishing a tool library. These suggestions had not been actualised during data collection for this study.

Curriculum: The TVET curriculum emphasises science, technological knowledge and measuring proficiency rather than practical knowledge. While this kind of program is good for progression to the next level of training, it does not support immediate employment. This could explain why graduates need extra training to transfer the skills to the workplace.

Accreditation: Examination and certification is an area that was cited by a majority of the stakeholders as a weakness due to the many examination bodies in existence and the various certificates received by the graduates. The poor collaboration and linkages in TVET hinder the mobility of trainees wanting to transfer their credit from one institution to another and, furthermore, most institutions are not in touch with the industry that absorbs their graduates for employment. In this area there needs to be an appropriate scale of equivalence by which the knowledge and skills acquired can be externally vetted. Without this equivalence, the competence of the graduate is difficult to evaluate in terms of their level achieved (Wachira et al., 2009). In

addition, the lack of standardised training and independent testing make it difficult to control the quality of training, meaning that the consumer of the services has no guarantee as to what they are purchasing.

Ongoing quality monitoring and assessment present an opportunity to correct any flaws observed during the process of training instead of waiting until a comprehensive evaluation is done, which may be too late for the correction to have any real impact. In 2008, the government admitted that inadequate quality assurance mechanisms in TVET contributed a great deal to the poor curriculum delivery and the production of graduates who are insufficiently equipped for the labour market (GoK, 2008a). To correct this situation, the government published the *National TIVET Strategy* (GoK, 2008a), which identified four impact indicators of relevance, efficiency, effectiveness and sustainability that would be measured during monitoring and evaluation.

Skill learning is dynamic and influenced by the development at the workplace. The UNDP report observed that globalisation and removal of import restrictions had increased competitive pressure in the job market, requiring industry and suppliers of goods and services to adapt to new technologies, work methods and ethics to improve productivity, efficiency and quality of services, and to remain competitive (UNDP, 2010).

7.3.3   *Behaviour*

Evaluation at the behaviour level attempts to determine whether those participants who have demonstrated knowledge of a skill or competency utilise that competency at the workplace (Smidt et al., 2009). Changes in behaviour require an environment that involves four conditions: knowledge and skills, the right climate, adequate rewards and the desire to change (Kirkpatrick & Kirkpatrick, 2005) which are discussed in the following paragraphs.

Knowledge and skills: TVET aims to impart practical, scientific, technological and inter-personal skills to address Kenya's human resource needs. The acquisition of skills and knowledge in the institutions is important, but they must be applicable to the workplace to meet the needs and attitudes that the industry requires. Employers indicated they invested a further 6–12 months of training for those they recruited from TVET institutions because their skill levels were too low. This is a wasteful practice in terms of time, finances and personal growth.

Right climate: In this study, it was observed that the Kenyan MSEs lacked modern equipment and other competitive strategies to fully utilize specialised skills that the graduates of the craft and diploma courses possessed. Further some skills that the graduates learnt such as engine mounting

and assembly were not utilised in most MSE. Thus, employees complained that although they had been taught some important skills and competencies in the training institutions, the MSE were not adequately equipped to offer them an opportunity to apply their skills, while safety instructions were routinely ignored. Further they were not accorded enough support by their employers, leading to a feeling of loneliness and inadequacy for the first few months, which delayed their integration to the workplace.

Changes in behaviour are further complicated by the very basic equipment that is found at the MSE. The Kenyan MSE sector workers do not have the essential awareness, technical know-how and resources to implement health and safety processes, making them vulnerable to environmental hazards, occupational accidents and diseases (Theuri, 2012). The issue of inadequate equipment at the workplace resonates well with findings made by Kaskutas et al. (2010) in the United States, where apprentices reported that the institutional-based training they had received was safety-focused, but that the methods taught did not correspond to methods actually employed on their worksites. In cases like these the employees had to unlearn what they had learned and re-learn other short cuts to employ at work, leading to frustration and confusion. This was exacerbated by the employers and other employees who may never have learnt the correct procedures for doing particular tasks, since they may never have received formal training, or were lacking confidence to follow guidelines, thereby creating environments that did not provide opportunities for the learned competences.

Adequate rewards: The formally trained TVET employees complained of very poor pay, whereby their employers did not recognise their level of education. Employers did not feel that the graduates deserved more pay than the informally trained graduates. The lack of recognition of their certificates through salary awards was a demotivating factor for effective work. In addition, some of them had secured student loans from financial organisations to pay for their training. Employees value adequate compensation, but as Szamosi (2006) notes, there are other constructs that consolidate their job satisfaction. These constitute "tangible and intangible benefits, empowerment and respect, workplace involvement, concern for employee welfare, supportive management, and the workplace environment" (p. 662), factors that create an enabling environment for skills transfer. As Kirkpatrick and Kirkpatrick (2005) observed, there is a very minimal chance that training will transfer to job behaviour if the climate is discouraging.

Desire to change: The motivation and drive to change behaviour plays a big role in the success of transferring skills gained at the training institutions to the workplace. The desire to change is enhanced by the creation of a positive attitude through acquisition of the necessary skills and

knowledge from the institution (Kirkpatrick & Kirkpatrick, 2005). Individuals who possess skills that are transferable to the labour market, tend to have higher motivation levels, and are more productive in their work, fostering social wellbeing and intellectual growth (Ehrenberg & Smith, 2003).

Informal and workplace training is conducted largely for the firm-specific skills since the manager does not see the need to train for transferable skills that may lead to the loss of an employee who has been trained and large sums of money invested in the training (Walker & Redmond, 2008). In addition, employees who attain more training will usually demand pay rises, which the employers are keen to avoid (Cooney, 2002). Further, in spite of the gains that would add to their individual, professional and business growth, small business owner managers seldom participate in formal administration competencies development because of the time and monetary costs involved (Bowen et al., 2009). However, the resistance to training is dependent on the level of education attainment of employers—those with higher education qualifications are more likely to accept skill upgrading (Bishop, 2008), probably because they have experienced its benefits.

The European Training Foundation, perhaps recognising the problem of transferability, has a mid-term assessment aim of which is to move from focusing exclusively on VET to more general skills development in a continuing learning curve (Masson & Fretwell, 2009). This study established that the Kenya government lacks the capability or willingness to follow the graduates' work pathways to find out how well they are coping in the job market. This is partly due to inadequate evaluation mechanisms and partly due to insufficient staff. In 2008, government officers numbered only 365 instead of the required 861, with the technical department having a deficit of 308 (GoK, 2008c). In addition, the inability of the training institutions to track the employment destinations of their graduates denies them valuable feedback from past trainees on the quality of the training they have received and the opportunity for their experience-based inputs to be factored into the review of curricula (AU, 2007). UNESCO adds that in most developing economies, there lacks a systematic evaluation, graduate tracer systems, and effective two-way linkages between the industry and VET (UNESCO, 2009).

Comprehensive behavioural evaluations are not implemented in a systematic manner by either the public or private sector in many developed or developing countries (Fretwell, 2003), which denies valuable feedback on the impact of training. Fretwell therefore recommends an evaluation involving both the inputs (policy and programs) and the outputs (economic and social factors). He illustrated thus:

If the clientele of a training program is highly disadvantaged or residing in an area of high unemployment, the impact of training will be less than if conditions were otherwise. Hence, poor employment of graduates may not necessarily mean that a training program was of poor quality. On the other hand, there may be problems with the quality and quantity of inputs, thus the reason and need for evaluation of both inputs and outputs. (Fretwell, 2003, p. 180)

The MoHEST Strategic Plan 2008–2012 (2008c) recommended that sound monitoring and assessments were required to make decisions aimed at improving performance, determining whether the program is likely to achieve the intended objectives, assess the use and delivery of the resources in accordance with the implementation plan and monitor the achievement of the intended outputs in a timely manner. From the data gathered from the stakeholders, in particular the employers, there were various suggestions for improving the transfer climate from the training institutions to the workplace. Two of those that stood out were more meaningful work experiences for TVET trainees and improved entrepreneurship education. This is consistent with Halpern and Hakel's (2003) advice that training institutions need to go beyond just training and skills acquisition to teaching students in such a way that they will be prepared for unpredictable future workplace challenges outside the classroom contexts.

7.3.4   Results

The results level of the evaluation framework assesses the benefits of training to an organisation against its costs, with the objective being to determine the added value of learning and development. Desirable results can include: increased production, better quality, reduced costs, less accidents, enhanced sales, reduced turnover, increased customer satisfaction and improved profits (Arthur, Tubre, Don & Edens, 2003; Kirkpatrick & Kirkpatrick, 2005).

Data gathered from the MVRSI stakeholders gave mixed results in relation to their views or opinions of TVET graduates. On the one hand it was thought that the graduates bring professionalism that enhances production, customer satisfaction and a positive outlook to the MSE sector; on the other hand stakeholders felt that, due to obsolete facilities in training institutions, the graduates need a longer induction, which is wasteful and time consuming. Stakeholders felt that the country does not get value for the money used in the training program because the curriculum, trainers and the institutions fail to address emerging sector issues.

A key feature that a sound T&D program evaluation would achieve is the linkage between the training and the industry. Many employers lamented that the government has not recognised their contribution despite their role in the provision of services to the country. A major observation

during the research was the informal type of operation in the businesses visited. Many of them did not have adequate documentation of their operations, marketing or finances. Human resources inputs such as job descriptions, job contracts, performance appraisals and trade union representation were also missing in the businesses.

Possible reasons for the kind of results observed in the MVRSI are suggested from this study. Results in this sector are difficult to quantify because they are largely influenced by other variables, such as workplace conditions, the country's economic conditions, societal factors and the owner–manager's managerial attributes. Arthur et al. (2003) observe that results are realised through increased productivity, better customer satisfaction, improved employee morale and an increase in profits—aspects that are very difficult to measure or attribute to a single factor like training. Furthermore, organisational, economic and social limitations highly influence not only data gathering, but outcomes as well (Praslova, 2010).

Quality monitoring and assessment present an opportunity to correct any flaws observed during the process of training instead of waiting until a comprehensive evaluation is done. This is because a quality T&D system produces a better qualified workforce, makes best use of financial resources, allows training providers to adapt their programs to changing circumstances more easily and comprehensively, and enables trainers to be more effective (GoK, 2008b).

Since the development of entrepreneurship in MSE contributes significantly to job creation, social stability, and economic welfare (Ladzani & Vuuren, 2002), there is an urgent need for a policy change that would create an enabling environment that supports the MSE to improve their profitability and competitiveness, and facilitates their advance into more modern enterprises (GoK, 2010a). This is especially critical in Africa where employment is scarce because of structural adjustment programs, insufficient educational opportunities, and the impact of globalisation on labour (Mndebele & Mkhweli, 2007).

7.4   Summary

In this Chapter a discussion of the findings of this thesis based on the three phases of a T&D program has been presented. The Chapter starts by discussing the first phase—T&DNA phase, which is comprised of two main parts: training needs analysis (TNA) which is discussed in section 7.1.1, and training objectives in section 7.1.2. The TNA is discussed based on six areas six key features, which are summarised here below. Training programs contents and priorities: these were found to be wanting because the curriculum content did not address key areas of concern to

the industry. The timing of implementation: most training institutions in Kenya and particularly the public institutions, offer courses that run for two to three years, which some of the trainees felt was too long and inflexible for learners who would want to update specific competencies. Resources required: the amount of funding that public institutions receive from the government was inadequate because skills training has traditionally relied heavily on donor funding that had dwindled with time. The expected rate of return was difficult to measure because the relationship between the inputs and outputs were influenced by a multiplicity of factors. However, the stakeholders felt that they were not getting value for money from vocational training. Training objectives were discussed based on five areas: delivery of quality TVET, improvement of consistency and management by training providers, improving graduates' employability, promotion of life-long learning, and enhancement of the status and attraction of vocational education. In general, the stakeholders felt that since the training needs were not assessed properly, the objectives did not address key areas of the training programs.

The training activities have been discussed based on five factors affecting this phase: TVET training institutions, curriculum implementation, trainers, trainees and sociopolitical factors. Stakeholders observed that most training institutions were located in urban centres; training program was rated high on basic, interpersonal, business and theoretical skills, while practical skills were rated as low to poor. In addition, trainers were inadequate and they lacked industry practical skills and capacity building; trainees had diverse reasons for joining vocational training; and the program lacked a unifying body to coordinate multiple providers.

In section 7.4, training evaluation is discussed following four levels of the Kirkpatrick evaluation model: reactions, learning, behaviour and results. Negative reactions were concerned with the quality of training and the poor perception of TVET as a last choice for those who are academically challenged. Learning was curtailed by the problems bedecking the program and poor methods of assessment. Transfer of skills was a challenge because the equipment and the training content from the training institutions and the MSE did not match. The results were mixed, because while the TVET graduates brought professionalism that enhanced production, customer satisfaction and a positive outlook to the MSE, they required a long longer induction, which is wasteful and time consuming.

The three phases of a T&D framework have been discussed in Chapter 6 (findings) and Chapter 7 (discussion). In the following chapter, conclusions, recommendations and implications for this study are presented, by outlining its theoretical contributions and practical implications for TVET and the industry.

CHAPTER 8   CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

8.1   Introduction

In this chapter a discussion of the conclusions, recommendations, practical and academic implications of this research study are presented. In addition the Research Question (RQ) and its four subsidiary questions will be 'answered', based on the data collected and analysed for this study. The study limitations and areas for future research will also be addressed.

8.2   Research questions

The aim of this research was to analyse MVRSI stakeholder's perceptions of the technical, vocational education and training (TVET) program in Kenya, through an examination of the contribution of TVET to developing job-related skills and competencies for the micro and small enterprises (MSE). To investigate this topic, data pertaining to T&DNA, training activities and training evaluation were sought. The aim was to develop an understanding of the VET training program through the perspective of the stakeholders who are the primary consumers of the program. To gather requisite data, this study was guided by a RQ and its four subsequent questions while a T&D framework was developed to help 'answer' the RQs.

RQ   *From the perspective of key stakeholders, how relevant are the skills and knowledge of TVET graduates to the needs of the micro and small enterprises in the MVRSI in Kenya?*

> **RQ (i)**   What types of skills do the micro and small enterprises in the MVRSI require?
>
> **RQ (ii)**   What types of skills are presently being offered through TVET for the micro and small enterprises in the MVRSI in Kenya?
>
> **RQ (iii)**   Are there gaps that exist between the skills developed and the needs of the industry?
>
> **RQ (iv)**   If there are gaps, how does the industry address them?

Data were gathered from five sources—19 micro and small business owners, 57 employees, eight trainers, 32 trainees and three education officers through semi-structured interviews, focus group discussions and observations. In addition, the researcher collated and reviewed government, TVET training institution and industry documents relevant to this study. The collected raw data

were then scrutinised by the use of interpretation and clarification, thereby establishing causal relations. This involved categorising the data using three phases of a T&D program. This was further scaled down to the component parts that were established during the development of a T&D framework presented in Chapter 4. In the following section is a report of the findings; the report seeks to answer the research questions, while drawing conclusions that are supported by evidence.

RQ (i): What types of skills do the micro and small enterprises in the MVRSI require?

This question was answered by MSE employers and employees in the MVRSI, the TVET instructors and the education officials. Data were also gathered from publications, government records and by observing activities in the training institutions and the general set-up of the businesses under study.

Data collected revealed that the MVRSI required basic literacy, technical and theoretical, business and interpersonal skills. Basic literacy skills comprising the ability to read and write and computer literacy skills are an integral part of workplace communication. Up-to-date technical skills are necessary because motor vehicle functions have increasing levels of technical sophistication and processes that require frequent skills upgrades for the employees to remain relevant to the workplace. Technical skills need to be tied to requisite theoretical foundations that enhance a worker's ability to diagnose and offer prescriptions for different mechanical problems. Workers also require interpersonal skills such as listening, clear communication, conflict management, problem-solving skills and team playing. Business skills such as mathematical and accounting proficiencies, organisational skills, entrepreneurial abilities and negotiation skills are also valuable to MSE owners. The right mix between basic and literacy skills and superior technical skills enabled the industrial take-off of Singapore and Malaysia. The take-off was preceded by an accumulation of literacy and basic skills, which were then supported by high-level technical skills (Onsomu et al., 2009). Kenya could study how these economies have progressed and evaluate the possibility of replicating their training systems.

The MSE employers in the MVRSI in Kenya preferred a well-rounded worker who can not only do technical work, but also possess other skills, such as problem-solving and decision-making abilities because of the frequent technological and global changes in this sector. This is because although employers stress the importance of occupational and technical skills, they also demand other skills which enable an employee to perform tasks efficiently, confidently, and to have

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positive relationships with the employer and other workers (Munro, 2007; Wallenborn, 2010). Furthermore, due to the dynamic nature of the workplace, employers need workers who can respond effectively to technological and global changes (Kogoe, 1985).

All the stakeholders found that training needs analysis (TNA) in the MVRSI has been inadequate because the sector has neither been able to compile an industrial skills inventory nor establish an inventory of skill demands that would determine courses to be included in the training program. Even when a TNA has been conducted it has been restricted to interviews, examination performance and advisory committees, and it usually targets particular sections of the training instead of the whole. These findings are consistent with assertions made by Fluitman (1999) that most national training systems are supply-driven because providers find it difficult to match institutional course skills with those required at work. Moreover, learning institutions in Africa lack mechanisms for counselling potential trainees on career choices; preferring instead to base their selection on passes of relevant subjects and ignoring the students' interests, expectations and aspirations (Kagaari, 2007). The reasons for this are partly due to a lack of information on labour trends and partly due to a lack of funds to carry out a comprehensive TNA, resulting in graduates' inability to meet employment challenges.

The Kenyan government had well-articulated training objectives that the curriculum was expected to realise, but the government lacked the capacity to do so because some institutions were using very old curricula while others were using foreign curricula that were in conflict with identified Kenyan concepts (Onsomu et al., 2009; KIE, 2006). Stakeholders voiced the need for a curriculum that is home-grown and addresses the particular concerns of the industry. A domestic curriculum would check problems associated with foreign curricula—for instance, cultural identities differ in how they conceptualise ideas, in their attitudes and dispositions, verbal and non-verbal reasoning and their perceptions (Munro, 2007).

In this research study, understanding the skill needs and wants of MSE employers is vital in the development of the first phase of a T&D framework—the T&DNA, which seeks to establish the training requirements of the program. RQ (i) was important because the responses it attracted were a prerequisite factor for investigating the other questions. For the most part, this question provided an insight into the needs of the MVRSI, thereby addressing this first phase. Once the needs of the stakeholders were outlined, the next task was to investigate the types of skills that the training institutions were offering, which was done by answering RQ (ii)

RQ (ii): What types of skills are presently being offered through TVET for the micro and small enterprises in the MVRSI in Kenya?

This question was posed to all the stakeholders who took part in this study—that is, the MSE employers and employees, trainers and trainees, and the education officers. The aim was to gain an insight into the training processes from a cross-section of as many players as possible, because at the core of this research was the desire to find out the skills being offered through TVET and their adequacy in addressing labour needs in the industry.

A common view expressed by the stakeholders that TVET imparted a wide range of skills to its graduates. However, the quality of the skills was not satisfactory to cater for the level of sophistication of and numerous needs in, the industry. Although the graduates had superior basic skills compared to those without formal training, some exhibited low levels of computer skills because their institutions did not have well-equipped computer labs. Onsomu et al. (2007) argue that the labour market needs to be knowledgeable in ICT to keep abreast with rapid technological changes, improve quality of work, maintain relevance, be flexible and offer life-long learning opportunities—attributes that are crucial for skilled labour. The level of theoretical knowledge exhibited by TVET graduates was acknowledged by employers as being satisfactory. The theory was not, however, matched by the practical know-how requisite to manoeuvre the motor vehicles (Kitainge, 2009; UNDP, 2010; Wachira et al., 2009). In addition, the training offers suitable interpersonal skills that most of the employers acknowledged were adequate for their enterprises. The graduates were viewed by employers as competent in organisational, occupational health and safety, and basic accounting skills. However, most graduates exhibited inadequacies in entrepreneurial and negotiation skills.

The TVET activities were discussed in Chapter 7 under five elements that influence the quality, effectiveness and efficiency of the training system in the MVRSI in Kenya. The findings indicate that:

- most public training institutions are located in the big towns and cities, while private institutions are almost all in the urban towns

- the curriculum implemented in the majority of TVET institutions is largely theoretical

- there were inadequate numbers of trainers in public TVET institutions and their qualifications were insufficient for the tasks

- trainees suffered from low self-esteem

- multiple TVET program management providers led to duplication of efforts, conflict of authority, under-utilisation of training facilities, unnecessary competition and costly irrelevant training programs.

The above findings were evidence that although the TVET program was expected to produce graduates who could realise the country's dream of becoming an industrialised nation by the year 2030 (GoK, 2007), the MVRSI training activities lacked the capacity to fully meet the demand of the particular industry. The findings of RQ (ii) led to the examination of the actual gaps that existed between the industrial skills needs and the skills offered through the TVET program. A discussion of the training gaps in TVET is presented in the following paragraphs, which address RQ (iii).

RQ (iii) Are there gaps that exist between the skills developed and the needs of the industry?

This question lead to the evaluation of TVET in relation to the level and quality of skills imparted to the graduates in the MVRSI. This study found that although the TVET program furnished its graduates with vital skills for the industry, there are some gaps that exist between the vocational training offered in Kenya and the skill needs of the MVRSI.

Training evaluation was examined in this study based on the four levels proposed by Kirkpatrick (1959). This study found mixed evaluations of TVET in Kenya from different stakeholders. While TVET was rated as superior to the informal training by formally trained employees and education officials, employers expressed concern over insufficient practical know-how that resulted in extra costs for the industry, because TVET graduates had to undergo extra training to acquire the technical skills required by the industry.

At the behavioural level, employees who had been formally trained complained of inadequate supervisor support, poor working conditions, and insufficient tools and equipment at the MSE, which inhibited smooth transfer of skills from the training institutions to the workplace. A related problem was that graduates of TVET felt that some of the skills and competencies that they had acquired were not being utilised at the workplaces. This is consistent with Skinner, Saunders and Beresford (2004) who noted that graduates exiting from the training institutions may be viewed as being over-skilled for small firms, especially in information technology. The authors stated that employers under-utilise these skills despite the significant contribution that they could have in

developing better work systems if well utilised. Because of the level of training and the skills acquired, formal graduates prefer to be employed in organisations that are innovative and risks-oriented, adhere to supportive values, have supportive social systems, are friendly, and encourage creativity (Szamosi, 2006). At the results level, TVET training was difficult to measure because the government and the training providers did not carry out tracer studies that would track TVET graduates' destinations and ascertain their impact in the workplace.

The number of graduates exiting every year from the TVET institutions to the MVRSI was small, as evidenced by the low percentage of formally trained graduates (27 per cent) compared to those who trained informally. There was a big variance in gender distribution at the MSE, with only 9.5 per cent of the workers being female. Although the MVRSI mostly attracts male workers, the ratio of females to male is too low compared to other technical skills, such as civil engineering, which has a 1:3 female to male ratio (GoK, 1999). In a departure from the established trends, some countries (mostly in Latin America) exhibit different gender distributional patterns, where in vocational centres the ratio of female to male is higher among the learners. For example, in Brazil, females account for about 70 per cent of all vocational track learners while in Bolivia they represent 66 per cent (Rodgers & Boyer, 2006). This is an interesting trend which shows that compared to men, women's education distribution favours vocational education in these countries. Policy makers in the GoK could be encouraged to benchmark these Latin American regions to find out their T&D structures. The GoK (2008c) has made some efforts to address gender disparities in TVET through actions such as waiving all fees to any female student who enrols in technical and engineering fields.

The MVRSI requires a wide range of competencies, such as engine tuning, electrical wiring, knowledge of braking, ignition and cooling systems, to name a few. The majority of TVET graduates exhibit sufficient skill levels in traditional areas such as engine tuning and spray painting, but show weaknesses in emerging technologies such as automatic transmission and electronically controlled antilock breaking systems. In a study of power mechanics training in Kenya, Kitainge (2003a) found that the training gaps existed because of the following: poor methods of TNA, subjective evaluation approaches, incompetent trainers, inadequate instructional materials and a lack of necessary tools and equipment. Although Kitainge's study was conducted in secondary schools, this study, which dealt with post-school training, reported very similar findings. This indicates that gaps in skills acquisition in Kenya persist both in the schools and higher levels, with negative impacts for the industry.

The geographical distribution of vocational training institutions had propagated unequal distribution of skills in different parts of the country. About 80 per cent of the institutions are located in the urban centres and high agricultural potential areas of the country, leaving the other areas with yawning gaps in skills and competencies for the MVRSI (GoK, 2003b; UNDP, 2010). In addition, the few institutions in the rural areas experience more tools and equipment challenges because they rely more on government funding, which is infrequent and mostly used to pay salaries. In China, a similar situation prevails—institutions that are located in poor rural areas have low quality because they lack mechanisms of raising revenue from non-government sources (Tsang & Ding, 2005). This study suggests that creating more linkages between the industry and the training institutions is one way of dealing with inadequate tools and equipment.

Recommendations for improving linkages between the training institutions and the industry have been advanced by researchers. For example, institutions could partner with business, and industry could go further than merely creating opportunities for practicum and internships (Mupinga et al., 2007). In some countries, the industry assists VET institutions with instructional materials and equipment and, in turn, the institutions provide facilities for the industry to offer consultancy and training workshops for their workers. Trainers suggested other options such as more widespread use of the institutions' staff and training facilities, income-generating evening and weekend training courses for skills upgrading, renting out or paid use of equipment by small workshops, and offering advisory services to the MSE. In addition, Hans (2002) suggested that institutions could radically reduce their training component costs by modifying their teaching programs to short modular courses, and decreasing their fixed costs (e.g. by contracting staff only for the length of the courses, using free training venues provided by the communities and asking trainees to bring their own training materials).

Due to the wide range of training providers, the Kenyan government recommended the establishment of a coordinating authority in major policy documents such *The National TIVET Training Strategy* (GoK, 2008a); while Ridha (1998) advised that coordination must exist between different parties involved in training for the processes phase to succeed, and to avoid wastage of resources.

The gaps that were identified in this study were: insufficient skills, inadequate TNA, skills transferability from the training institutions to the workplace, the number and distribution of training institutions, and coordination of the multiple training providers. The next research question examines how the industry deals with these identified gaps.

RQ (iv): If there are gaps, how does the industry address them?

Data for this question was gathered mainly from the MSE employers and employees, and from the education officers and trainers. The aim was to find out about other options on offer that fill the training gaps identified, and the quality and effectiveness of the options.

Findings indicated that there were many gaps in the skills that are requisite for the MVRSI. All the MSE employers responded to the skill gaps by carrying out some form of training; this took place in addition to conducting inductions for graduates of VET institutions when they joined the workplace for the first time. The employers did not have a structure for their training but explained that they measured their trainees readiness through observations and tailor-made practical tests—findings that are consistent with Ngoa-Nguele and Stolovitch (2001) who observed that in Africa most on-the-job training lacks structure because needs are hardly ever systematically assessed, the training objectives are rarely formulated, most trainers are not experienced and the sector lacks means of giving incentives to trainers and trainees to encourage them realise expectations. However, the importance of training in this sector cannot be ignored because on-the-job training absorbs and trains a higher proportion of workers than the formal technical training institutions, making it imperative for the government to develop its capacity to carry out quality training (Barasa & Kaabwe, 2001). Additionally, policies that promote human capital development activities and workers' protection through the MSE' own social organisations and training process are more appropriate than short-lived skill training programs (Kinyanjui, 2011).

Informal training is imperative for the youth, who for numerous reasons, are not able to advance academically or be enrolled in the formal VET institutions, and for or those who find it difficult or have no hope of joining the formal sector (Johanson & Adams, 2004). Although the MSE employers play a very important role in imparting skills, the sector does not receive due recognition and support from the Kenyan government, save for a few programs initiated by the World Bank (UNDP, 2010). This situation is asserted by the AU, who observed that despite the informal training or apprenticeship being the only means for the rural poor and economically underprivileged to learn skills, it was unregulated, relegated, and did not receive much government support or quality assurance in most African governments (AU, 2007). However, to attain successful results in Africa, informal training needs to be integrated so that performance measures can be established alongside those of the formal learning (Ngoa-Nguele & Stolovitch, 2001). This is because informal training does not require highly specialised expertise to design and implement and the skills learned are easily transferable, making it an alternative choice in

skills training. Further there are added benefits for employers because training at the workplace enables them to fill skill vacancies, thereby retaining long-serving employees and developing workers who have a detailed knowledge of the business systems, work procedures and ethics (Cooney & Long, 2008).

During this study it was found that the directorate of industrial training (the body responsible for trades training), had not adequately taken cognisance of informal training methods in the design of feasible training programs. Coupled with this is the lack of good relationships between the informal trainers and formal vocational training institutions. According to Wachira et al. (2009), to address the weaknesses of the informal skills training there is a need for interventions in vocational training in Kenya, which would lead to enhanced linkages between formal and informal trainings, such as developing a theoretical base and the introduction of suitable equipment to the training sites. In addition, the AU recommends that close linkages between science and technology with the learner's culture to improve learning outcomes, to increase female participation, and, to validate indigenous knowledge and technology for sustainable development (AU, 2006). Some training providers opted to use foreign curriculum because they found it more appropriate to provide. Although a few institutions that train technical courses used foreign curriculum, the practice was more prevalent in business, accounting and law courses (UNDP, 2010). Graduates with foreign qualifications found it particularly difficult to obtain jobs because most employers were not conversant with them and the country lacked a national qualification framework (NQF). According to Young (2007) an NQF has the following benefits: learners' formal qualifications will be acknowledged and their informal learning accredited; for trainers and employers, an NQF will afford an officially recognised foundation for equating qualifications from different examining bodies and the NQF will help break barriers for labour exchange between countries. This study recommends that Kenya establishes a NQF to validate multiple and foreign certificates found in the market.

8.3   Implications for T&D research

This research identified key issues that stakeholders perceived as important for an improved TVET for the MVRSI. The issues that were pertinent, and which were expressed by a majority of the stakeholders were used to develop a framework that was used to analyse key areas of a more responsive T&D program. Below is a brief discussion of the process of developing the T&D framework for MVRSI in Kenya, and which was used for analysing data for this thesis.

In Chapter 3, literature on T&D models was examined and three main phases were identified: the T&DNA, the training activities and the training evaluation, and is replicated below:
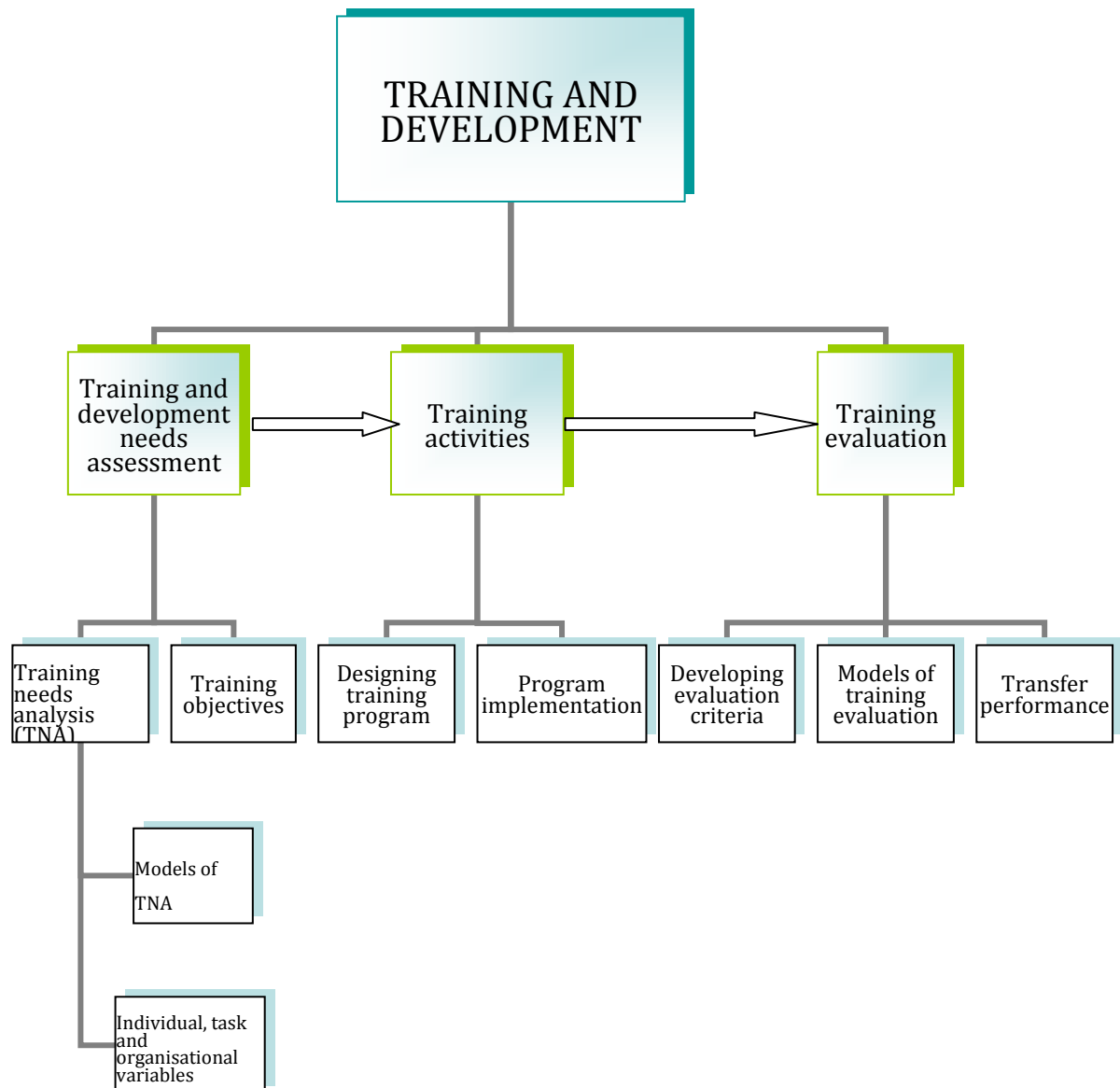
Figure 8.1   Organisational T&D model

Source: Armstrong (2009), Beardwell and Claydon (2009), Cascio (2010) and Stone (2010).

The three phases are interrelated and build upon each other because the results of a TNA and subsequent formulation of objectives in the T&DNA phase, dictate the kind of program design

and implementation strategies in the training activities phase. These are then assessed and measured in the evaluation phase of the T&D.

In its original form, the above T&D model was not sufficient for a comprehensive study because while the model was developed for organisations the focus of this study was the MVRSI, which operates at the national or macro level. This necessitated the inclusion of other attributes of a T&D—for instance, while the organisational TNA is concerned with analysing the individual, task and organisational variables attributed to a particular organisation, at the industry level other variables that followed guidelines from the AU were considered. These variables included: programs, content and priorities; timing of implementation; resources required; and expected rate of return. Similarly, training objectives in an organisational T&D are restricted to that particular organisation, and to the workers who are already in employment, but in the industry T&D framework this research project considered the Kenya national objectives to be appropriate for study (GoK, 2008). These objectives are: delivering of quality TVET; graduates' employability; improving consistency and management of training providers; promoting life-long learning; and enhancing status and attractiveness of TVET. In the second phase, the organisational T&D model involves two main areas—designing training programs and program implementation—but fails to include factors outside the organisation. To analyse the perceptions of key stakeholders in the MVRSI, it was necessary to consider as many factors that impact the training activity as possible. These factors were derived from interviews and discussions held with the stakeholders and from available literature. They were identified as: training institutions, curriculum implementation, trainees, trainers, and sociopolitical factors. Finally, while the organisational T&D model was concerned with developing the evaluation criteria, models of training evaluation and the transfer performance, the T&D framework identified Kirkpatrick's four levels of evaluation as sufficient for the MVRSI training program. These four levels are reactions, learning, results and behaviour. Figure 8.2 is a graphic representation of the framework.

This framework was found to be sufficient for analysing key stakeholders perceptions of the MVRSI, as it examined the research questions in both depth and breadth. Thus, although the components of an organisational T&D model were found to be inadequate for the MVRSI its structure was vital in developing a customised T&D framework that identified intricate areas used in this research and is replicated below.
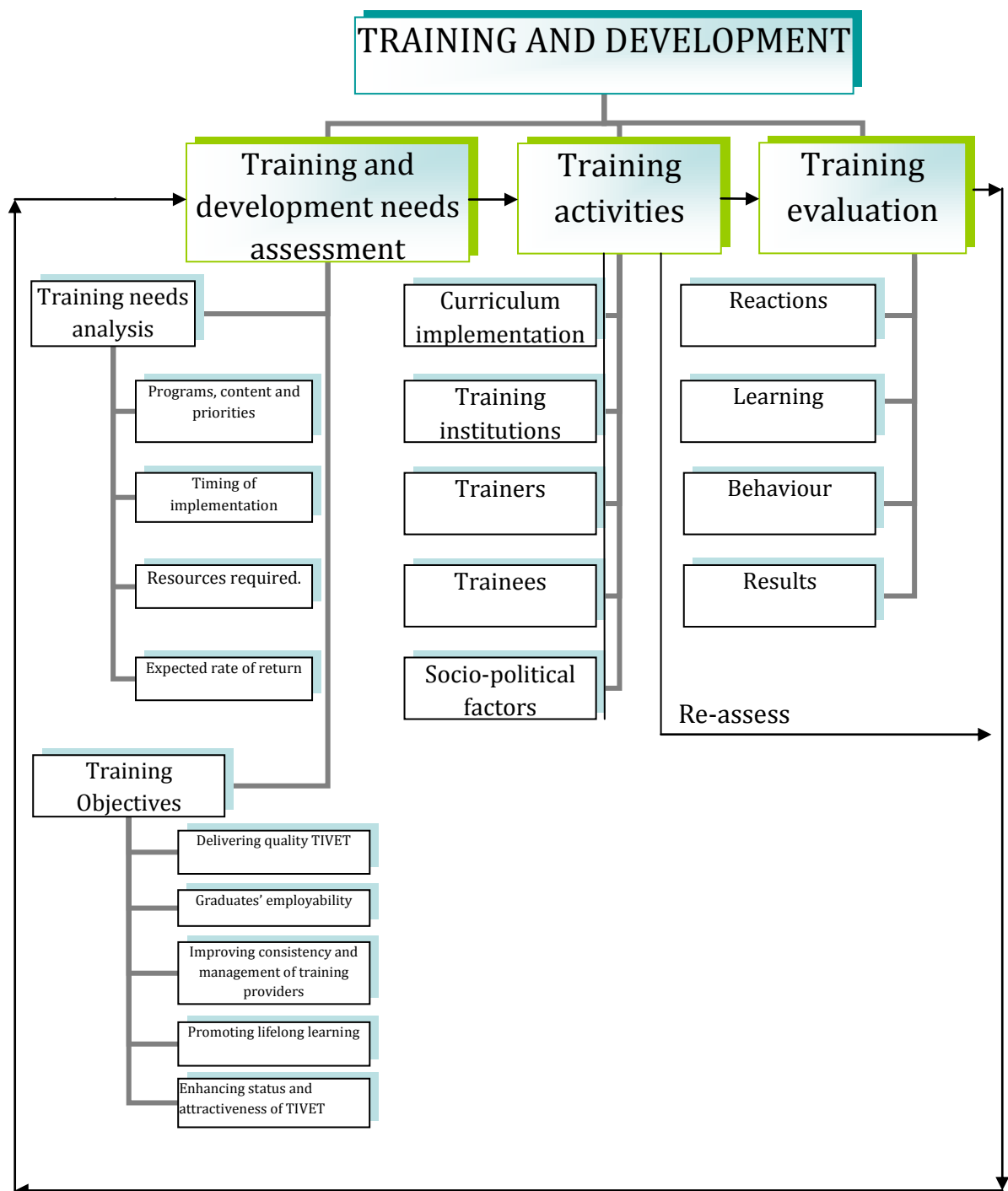
Figure 8.2   TVET training and development framework

As discussed above, the three phases of a T&D program are important for a comprehensive structure of a training program. According to Wargonhurst (2002), a well-developed T&D

structure develops an employee's productivity by comprehensively analysing training needs, engaging appropriate training activities, and proactively identifying factors beyond the training program that influence skills transfer from the institutions to the workplace. The author adds that a comprehensive TNA requires the use of multiple levels of stakeholders, such as front-line employees, grant administrators, supervisors, middle managers and executives. Moreover, there is a need to obtain the support and involvement of key stakeholders who have a direct interest in successful VET—such as the industry and the training providers; those who will use the analysed needs to decide what training will be offered, and the amount and type of resources required; and those who will directly benefit from acquisition of the skills (Sommers, 2002). The implication here is that where a thorough TNA is not carried out, there is a likelihood of an inefficient and ineffective training system that can result in waste of vital resources.

Despite the importance of engaging stakeholders in a TNA, findings of this study revealed that very few stakeholders in the MVRSI take part in this process (GoK, 2005; Kitainge, 2003a; Onsomu et al., 2009). To address this problem, this study involved multiple stakeholders who provided rich data pertaining to the skill needs of the MVRSI that could be addressed by TVET. The results, therefore, present an understanding of how different key stakeholders rate the training system's ability to serve the needs of the MVRSI. The findings are important because they represent wide-ranging views from different perspectives, presenting insights into how different segments of society measure the same training, as proposed by different authors, such as Kagaari (2007) and Bishop (2008). The use of multiple stakeholders provides an overview of the training program's activities, stakeholders' interrelationships, methods of constituting and redefining viable curricula, transferring good practices, building consensus and assessing evidence of what works—views that are consistent with those affirmed by Kitainge (2010). In addition, context-specific experiences that are founded on an understanding of how local realities relate to broader structures of power to shape their development outcomes are better understood through learning how local cultures, beliefs and practices affect the processes of improvement or impoverishment (Economic and Social Research Council [ESRC], 2006).

As observed in section 1.7, the poor methods of skills' gaps analysis are a major contributing factor to the mismatch between the type and quality of skills that the TVET institutions are producing. Allais (2012) argues that it is through having a clear base that a strong curriculum is built enabling training institutions to have a distinctive training identity instead of "being service providers whose 'product' is redefined for each 'client' (p. 640)". In addition to providing inadequate TNA, African governments are too slow to adapt to global changes, and this is

expounded by their T&D programs which continue to practice adopted academic structures from their colonial masters, such as memorisation, passing of exams and certification without acquiring requisite skills to match the certificates (Ngoa-Nguele & Stolovitch, 2001). While these methods may have been appropriate in the past, they do not suffice today. In addition, authors such as King and Palmer (2010) question policy discourses that emphasise poverty reduction, arguing that East and South-East Asia countries that have dramatically reduced their poverty levels have done so through focusing on other economic and social components instead of poverty reduction. According to the authors these countries have targeted the development of overall policy framework through holistic education and capacity development, investments in physical infrastructure, employment and technology policies, market access, and by creating of an enabling environment for the private sector, in both urban and rural areas. This study seeks to add to the policy discourse by assembling a T&D framework that combines a wide range of literature from research and policy papers.

For this study various methods (presented in Chapter 5) were used to collect, analyse and present data gathered from key stakeholders. According to Yin (2004), collecting data using multiple sources generates more and diverse data and is rated more highly in terms of overall quality than a single source. In addition, data from many sources of information allows for a degree of confirmation of findings, plus new ideas and renewed insights (Ghauri & Gronhaug, 2010). This study therefore offers varied perspectives of effectively identifying and gauging key stakeholders needs for an effective T&D program. Furthermore, the research shows ways of identifying key elements in the activities phase of a T&D framework and suggests different solutions to the challenges faced in the attempts to offer quality and relevant skills for the MVRSI. The implication of diverse data sources in T&D research is that of rich and dependable findings, which aptly identify distinct areas of concern in the T&D program.

VET builds human capital that is vital to the development of any economy. In Chapter 2, it was revealed that the degree to which TVET is building this human capital is not sufficient to support a developing economy experiencing fast-changing global dynamics. An effective T&D program, which starts with the accurate assessment of training needs from multiple stakeholders, is vital to discern the gaps that may exist in the training program. Once the gaps have been identified, the training activities are then examined to find out how the needs can be addressed through training designs, and the methodologies are then chosen (Dowling & McKinnon, 2002; Stone, 2010; Wagonhurst, 2002). The last phase of an organisational T&D program involves evaluating the training by examining its outcomes against the set goals (Kirkpatrick & Kirkpatrick, 2005). The

results of the evaluation are then used to carry out more TNAs. This is a cyclical process that involves the three mentioned phases of a T&D program, which implies that a gap in any of these phases can result in a deficiency in skills.

The organisational T&D model that was discussed in Chapter 3 acts as a guide for developing and designing training programs in organisations. However, to suit an industry, T&D needs to be modified by specifying composite parts. Thus, literature from the Kenyan education system was reviewed and presented in Chapter 2. Then in Chapter 3, an organisational T&D model from different authors was reviewed and presented. The organisational T&D model was then expanded and customised to the needs of the MVRSI context and then a training framework was developed for this study. This framework, which was presented in Chapter 4, was used to analyse the data that was used to answer the research questions for this study. The components of the framework were found to be appropriate for analysing the perceptions of the stakeholders in Kenya. This is a key contribution to the theoretical framework of an industry T&D, and can be used for similar studies for other industries; and in other developing countries that experience similar conditions to Kenya.

Besides extending the body of knowledge on T&D programs, this study also builds on earlier research by Karmel (2011), Budría and Telhado-Pereira (2009) and Brockmann et al., (2008) who researched on the contribution of VET to skills development; Brown (2002), Hauer and Quill, (2011) and Cekada (2010) who researched TNA processes; and, Kay et al., (2004), Fretwell, (2003), Kirkpatrick, (2005) and Smidt et al., (2009) who contributed significantly in the field of training evaluations. By building on the work of these researchers and developing a more responsive T&D framework for the MVRSI in Kenya, this study aims to open debate on processes that can either add value or transform industry T&D in different developing countries. Most of these countries have relied on foreign curriculum that has not adequately responded to the needs and aspirations of their industries, economies and societies. Furthermore, it was established through this study that there is a dearth in the amount of literature that is dedicated to T&D programs in developing countries especially those in Africa. It is hoped that other researchers in Africa and elsewhere can critique, add or adopt the framework developed in this study to improve T&D programs for the MSEs, and even large enterprises in different countries.

In addition to the implications for T&D research, practical implications for the TVET program are identified in this study and are discussed in the next section.

8.4   Practical implications

Important data related to MVRSI key stakeholders' perceptions of TVET needs assessments, activities and training evaluations were gathered for this study. The findings indicated that the MVRSI training program has many strengths as well as weaknesses and these can be harnessed to improve its contribution to job-related skills and competencies for the MSE.

Addressing the mismatch of industry skills in TVET institutions. Carrying out a comprehensive TNA enables training providers to concentrate on filling the identified gaps. To address the issues of skills' mismatch, a current skills' inventory is vital because information is required on the courses to train, the existing job openings, and the emerging skills demanded by the industry. Once the skills gaps have been identified, an examination of the country's training priorities will identify training areas that require fast tracking and those that can wait for a longer period. The aim would be to ensure sound and responsive programs that address societal demands by articulating short-, medium- and long-term training implementation goals.

Creating linkages with the industry will enable the training institutions to open up more industrial attachments for the learners and encourage the industry to provide instructional equipment and materials. Furthermore, communicating to the employers the advantages of taking up trainees for industrial attachments will help the perception of learners as an added burden.

To ensure a sound management system for training programs, it is vital to create an umbrella training body to coordinate the multiple training providers, develop standards for training validation, build national vocational qualification structures and proficiency levels, and establish certification and accreditation of training providers. Institutional boards of governors can be empowered to run training institutions according to the needs of the immediate society, which would make courses more flexible and responsive to that particular community requirement.

The quality of training providers, institutions and trainers influences the outcomes of the programs and a minimum level of qualifications for a trainer to carry out instruction needs to be set. Business owners interested in offering training should be accredited as providers of training. In addition, more quality private training providers need to be encouraged to offer VET, thereby streamlining the private sector by weeding out institutions that offer poor services. Furthermore, the efficiency of trainers could be enhanced by introducing short training-competency courses that would allow industry trainers to acquire a certificate in pedagogy. A clear program of in-servicing institutional trainers would encourage them to comply with the industry standards. This could be

done through establishing linkages between vocational training institutions and universities to enable trainers to further their studies.

Most TVET institutions are concentrated in major towns and high economic-potential areas of the country. More equitable distribution of institutions to all regions of the country would make them accessible to all segments of society including people with disabilities, the poor and women. With their extensive infrastructure network, there is great training potential in the YPs. This network could be exploited to make YP's more attractive to the youth by equipping them better, offering a wide range of certificates and staffing them with qualified trainers.

Making the industry curriculum flexible. Most stakeholders who took part in this study were concerned about the inflexible MVRSI curriculum offered by TVET providers. Online, holiday and evening courses would cater for mature learners and those already at the workplace who need to improve their skills. Such courses, which include tour and travel, hairdressing, computer studies, music, fashion and design, foreign languages, and sales and marketing, are particularly popular (Ngware, 2002) because they are of a short duration and cater for their needs. In addition to the certificate, diploma and degree courses, if other programs could be taught in short modular forms, they could attract potential students who may not have an interest in the longer courses.

The formal TVET system ought to develop ways of recognising prior learning, whether this was acquired formally or informally, through the creation of validation mechanisms. Weaknesses in informal training such as the level of theoretical base and poor technology are best addressed through the integration of formal and informal trainings to address the shortages and inadequacies in skills and to increase the levels of skill certification. In addition, educating MVRSI employers and employees about the importance of frequent training would ensure that all workers are prepared for workplace challenges, new innovations, dealing with burn-out, and working towards cohesiveness in the sector. More importantly, the simplistic categorisation of economic activities into formal and informal, with the former being viewed as superior by governments, has obscured the complex nature of training in the MSE (Kinyanjui, 2011). Kenya's MSE could borrow a leaf from their counterparts in Australia where most businesses carrying out training have their own list of competency standards, and are increasingly aligning themselves with the national training system (E. Smith, 2010). This should be done with caution because the social relations and ties under which Kenya MSE operate differ substantially from those in Australia, but this calls for a re-thinking of strategies for intervention (Kinyanjui, 2011)

The acquisition of workplace skills such as book keeping, interpersonal, and entrepreneurial competencies by entrepreneurs is vital to surviving in self-employment. In addition, financial capital is essential for establishing viable ventures—necessitating the creation of linkages between the training institutions and financial institutions to fund viable ventures.

Promotion of TVET activities and practices through electronic, print and sound media, business and management forums, innovative exhibitions and trade fairs will most likely enhance the status of TVET. However, to motivate more women to take up technical courses that are more marketable and produce higher returns requires more deliberate and aggressive interventions.

Funding the training program: Vocational training is an expensive venture, which requires massive inputs in terms of finances as well as equipment. Training providers ought to guide potential trainees in their course choices by taking cognisance of their abilities and academic qualifications. Further there is a need to address trainees' capacity to afford TVET training. This could be approached through offering loans like those accorded to university students, to offer a chance to the poorer segments of society (UNDP, 2010).

By making more use of training facilities and staff training, institutions could significantly lower the cost of training. Such use could include introducing fee-charged evening and weekend courses, offering short modular courses, renting out equipment and facilities for small workshops, and offering consultancy and advisory services to MSE. These measures are commensurate with Tsang and Ding (2005) who identified areas such as making full use of the training resources, reduction in drop-out rates, regulating costs of training, maximising the use of economies of scale, training staff and adjusting training duration. Other measures could include comparing the measures that different institutions take to deal with the high costs of training, and possibly seeking to replicate them in other institutions; and opening institutions' garages to the public for service and repair, and renting out equipment and machinery to businesses for a fee or in exchange for attachments.

Getting value for money. Evaluating a training program involves measuring its outcomes against its set targets either in terms of outcomes or resources. All inputs of a training program ought to be analysed, costs calculated and judgments made on whether the venture meets the perceived benefits. Areas of concern include: technology levels, teaching methods, trainers' remuneration, duration of training programs, student attrition and under-utilisation of available resources (Mun, 1997).

Although Fluitman (1999) lays emphasis on the return on investment for training systems, this study advocates for the use of TVET to address the issue of social inclusion because of the unique challenges that Kenya faces, such as a very high percentage of youth compared to other segments of society, criminal gangs and regional imbalances. The use of VET to achieve more than just measuring economic outputs was emphasised by Cunningham and Sydhagen (2007) who observed that Sub-Saharan African countries face challenges in designing public policies that maximise the prospective benefits from globalisation and reduce the risks of social instability and marginalisation. The authors advised that through education and training, the countries can invest in people for increased productivity and improved economic yield to generate capital for the economies. Regrettably, most TVET approaches for MSE are based on human capital theories that emphasise objectivity and economic understanding of learning behaviour and ignore social influences that employers and trainees value (Bishop, 2008). There is need therefore, to protect VET from immediate and narrow short-term needs of employers to focus on social policy and well-regulated occupational needs (Allais, 2012).

Transfer of skills. More collaboration between the training providers and the industry is needed to address the issues pertaining to transferability, such as the level of training attainment, the expectations of both the employee and the employer, and safe work practices. Business owners need to be encouraged to regularly update their management and interpersonal skills to not only manage production, but also finances and human resources to ease TVET graduates' transferability to the industry. Furthermore, there are added benefits that employers involved in training would reap by cooperating amongst themselves (Cooney & Long, 2008).

Institutions and governments ought to develop mechanisms for tracking graduates at the workplace to provide feedback that can be used to improve training programs. The feedback would enable the government to come up with employment figures with stratified course figures. Another option is that of creating industrial incubators that would provide workplace experiences for trainees and ease transferability of practical skills.

The MSE sector needs to be formalised to recognise formal pre-employment training through formulating clear job descriptions and job specifications, to be aligned to the salary system. The business managers will likely oppose this system having operated without much regulation, but the needs and aspirations of the workers need to be prioritized as well. The GoK has specified the rights of workers in its constitution, stating that: "Every worker has the right—(a) to fair remuneration; (b) to reasonable working conditions; (c) to form, join or participate in the activities and programmes of a trade union; and (d) to go on strike" (GoK, 2010b p. 30). The

challenge remains to execute these rights in the MSE sector, which is a largely unregulated industry. As a matter of urgency, the government needs to set minimum wages for different levels of TVET attainment and enact enforceable regulations on minimum equipment for operation and safety for all MSE.

Further, the government needs to address the issue of numerous certificates and training levels that are found in the market and which confuse employers. A national qualification framework or body would be particularly useful in gauging different levels against an agreed standard. In addition, as Bishop (2008) advises, information concerning national qualifications frameworks need to be disseminated in a high quality and well-publicised manner.

8.5   Limitations of the study

Limitations to this study relate to two areas: process of data collection and analysis, and the findings and conclusions of this study.

8.5.1   *Data collection and analysis limitations*

The first one relates to the number of respondents that took part. Only 19 MSE in the MVRSI (out of an approximate 4,500), four training institutions (out of a possible 1,500); 32 trainees (the total is about 60,000) and four education officers were involved in this study. Due to this small sample, generalising these results should be done with caution.

The second limitation arises from the rapid political and departmental changes taking place in the country. The data for this study were collected in December 2010 and January 2011. Since then, there have been major changes emanating from a new constitution dispensation, which has changed the TVET and business sectors. However, the findings of this study are still relevant because although departments may change rapidly, pertinent issues in training and business industries take a much longer time to evolve.

Scarce resources such as time and finances provided another limitation. This study is of the Kenyan situation, while the researcher was studying in Australia; therefore, the internet was central to the research. However, most Kenyan government websites did not provide adequate information and were not updated regularly. The researcher had to rely on emails and the telephone to clarify any information, which was both expensive and time-consuming.

Some respondents—mainly the MSE employers—found the total number of semi-structured questions used numerous and time consuming. This research was designed to be unobtrusive and

casual, but in general most MSE employers are so busy that this form of design may have encouraged them to provide superficial responses without giving thought to the deeper meaning of the questions. Despite these shortcomings, the questions gathered valuable data and findings contributing to this thesis.

8.5.2   *Training and development framework limitations*

The other limitations were related to the framework that was developed in Chapter 4 and used to analyse the perceptions of the MVRSI stakeholders.

This study developed a T&D framework from that of an organisational model through the addition of component parts that were deemed important from literature review. Although much literature was gathered and incorporated, the framework may face difficulties in use. For instance, TNA data gathering and analysis for an industry is a complex affair because of multiple interests and diverse methods of training such as: apprenticeships, traineeships, non-formal, informal and the formal training. MSE are not uniform in terms of size, management or even technology levels; making it difficult to conduct linear surveys.

Although this study identified the expected rate of returns (ERR) as an area that TVET should consider, it also acknowledges that it is difficult to measure the ERR due to other factors in the input-output relationship such as competing demands from other sectors in the country, the learner background, resource inputs and educational processes. This is because of the acknowledgement that investment in skills does not necessarily equate to higher productivity or better performance. Thus it becomes very difficult to identify and measure the actual outputs from the investment decision.

Kirkpatrick's evaluation model is used in this thesis to analyse issues pertaining to the T&D evaluation processes. In a developing country such as Kenya, and an unregulated industry like the MVRSI, there is a chance that the model may not have the capability to measure complex realities of the workplace due to issues such as the level of knowledge and difficulties of designing evaluation tools. Giangreco et al. (2010), avers that universal models like that of Kirkpatrick's may not be appropriate for MSE that employ knowledge workers in an ever-changing global business.

8.6   Areas for future research

This research focussed on only one context where TVET is undertaken: the MVRSI. There is need to examine other sectors to find out how the skills and competencies gained from TVET are

aligned to the workplace. For example, one education official intimated that the quality of skills that offered for the hotel industry was more appropriate than that for the MVRSI. In addition, courses for the trade industries such as marketing and finance, which do not require massive resources, would most likely offer a different perspective of the training process.

This research focussed only on Kenya. Future research can be based on a comparative study of TVET in Kenya and other developing countries that have different processes of training. For example, this study found that Gabon, in West Africa, has a VET participation rate of 12.7 per cent while that of Kenya is less than two per cent (Afeti, 2006), and yet South Africa which is more economically developed has only a participation rate of less than two per cent.

Eight stakeholders were identified for this study in Chapter 2, but only five took part. Future research could include other stakeholders to examine their views on the topic of TVET contribution to workplace skills. Such stakeholders would include examination bodies, book publishers, line ministries and trainees' parents and guardians.

Three phases of T&D program (i.e. T&DNA, training activities and evaluation) were discussed in this study. Due to the large amount of data gathered in each of these areas, future research could concentrate on only one phase of the model, to gain a deeper understanding of its specific contribution to the success of the workplace. Further the proposed framework was specifically for MVRSI: other research could study other industries to find out the areas that those courses need to be studied.

8.7   Conclusions

This study sought to examine the perceptions of key stakeholders in the MVRSI on the Kenya's TVET for the MSE. It was occasioned by a call from the government for researchers to carry out empirical studies that would provide direction to skills acquisition. In Chapter 1, it was established that key government policy papers and researchers in the TVET sector had judged that the skills that the program produced were inappropriate to the labour industry, that the TVET was inflexible and that there were poor-quality assurance and monitoring systems (GoK, 2005, 2007; Kitainge, 2010; Wachira et al., 2009). Further, the KESSP document of 2005 highlighted the poor participation of the industry in TNA and curriculum development.

The literature reviewed indicated that TVET faced multiple challenges at all levels of the T&D process. This prompted the researcher to study secondary data related to T&D models. The organisational literature on T&D model was reviewed and then expanded to include areas that

were deemed important to this study based on the Kenyan situation. This model was used to interpret and discuss data collected for this study and found to be appropriate for use in TVET.

The aim of this study was to examine different stakeholder's perceptions of TVET's ability to supply the MSE with necessary skills. Eight key TVET stakeholders were identified and four of them took part in this study. To gain a deeper understanding of the T&D processes, this study used the case study approach and employed semi-structured interviews, focus group discussions, observations and archival records. Content analysis was used to deal with the multitude of data, and the findings were presented using descriptions and simple frequencies.

Research findings indicated that TVET has a very long history, and has been a significant contributor to the country's economic development through the provision of skilled labour; although the adequacy, quality and appropriateness of the skills entrenched need to be updated. The T&DNA, implementation and evaluation mechanisms revealed numerous deficiencies that inhibit attainment of quality skills.

Information was found that can enhance the future researcher's thinking when dealing with factors that affect TVET and the effectiveness of supplying adequate skills to the labour industry. Gathering data from a cross section of stakeholders enhanced the richness of the findings, giving credence to the quality and adequacy of the implications for both theory and practice. In general, most of the findings are consistent with similar studies done in Kenya and other parts of Africa.

The theoretical and practical implications will serve to assist other researchers who wish to describe and explain the relationships between vocational education training on the one hand, and its contribution to job-related skills and competencies in Kenya and other parts of the world on the other. Furthermore, since this research concentrated on only one sector of the industry, these findings can be replicated and used as a guide for studies in other sectors.

It was found that the industry attempts to fill the identified labour-supply gaps by offering on-the-job training, but the training lacks a structure. Employer organisations, such as the Kenya Private Sector Alliance (KEPSA), provide short courses, which address key areas such as skills updating and business management. Generally, workplace training in Africa accounts for the largest number of all trainings in the VET sector (Bennell, 2000; Wachira et al., 2009; Ziderman, 2003).

8.8   Summary

This chapter concludes this research study, which had the aim of developing a T&D model for the TVET program in the MVRSI in Kenya. The two main research questions and the four subsidiary questions have been answered, theoretical and practical implications made, limitations of this study have been acknowledged, areas of future research suggested and conclusions for the study have been drawn.

The starting point for this study was with examining TVET in Kenya to find the training gaps that existed. Then an organisational T&D model was examined. This model was expanded based on the gaps identified and relevant literature of the TVET program to develop an improved T&D model. The model was tested by employing it to guide the framing of the research questions, and then collecting, analysing, interpreting and presenting data. The model was found to be suitable for use in the TVET program in the MVRSI in Kenya.

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Appendices

Appendix 1: Study towns and cities
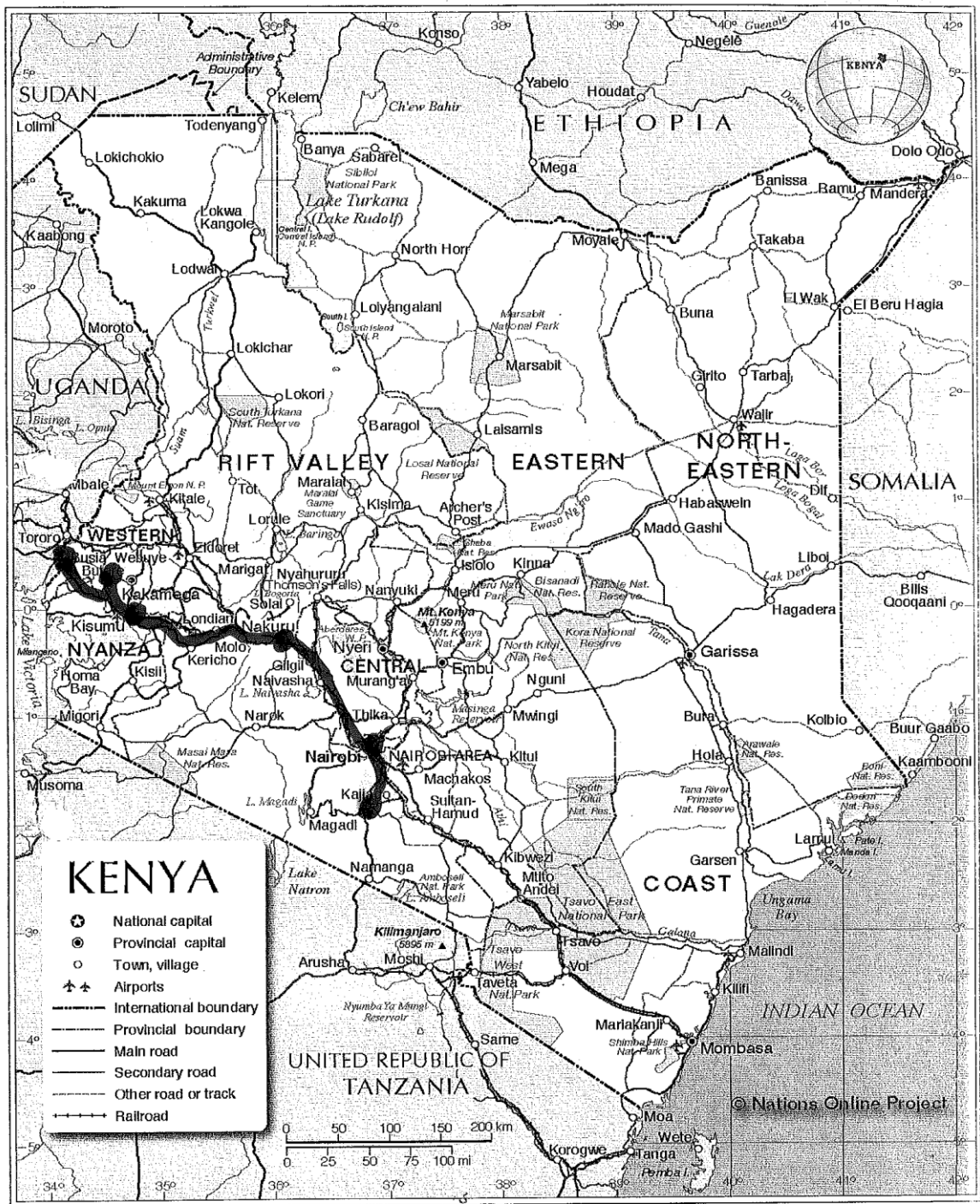
DATA COLLECTION SCHEDULE: TIVET EMPLOYERS AND EMPLOYEES
DECEMBER 2010

Day	Date	Number assigned	Employer's business	Location	Number of employees respondents
Thursday	16/12/2010	S/No: 01	Mzalendo motors	Ongata Rongai	2
Thursday	16/12/2010	S/No: 02	Leshau motors	Ongata Rongai	3
Friday	17/12/2010	S/No: 03	Baseline autospares & service	OngataRongai	3
Friday	17/12/2010	S/No: 04	Namko autoparts & service	Ongata Rongai	2
Friday	17/12/2010	S/No: 05	Solem auto	Ongata Rongai	3
Saturday	18/12/2010	S/No: 06	Outer ring road motor services	Nairobi	2
Saturday	18/12/2010	S/No: 07	Karen auto services	Nairobi	4
Saturday	18/12/2010	S/No: 08	Lino motors	Nairobi	4
Sunday	19/12/2010	S/No: 09	Buki motors services	Nakuru	5
Sunday	19/12/2010	S/No: 010	Ol kalau motors	Gilgil	3
Monday	20/12/2010	S/No: 011	Lakeside motors	Kisumu	3
Monday	20/12/2010	S/No: 012	Check – in motors 2005 ltd	Kisumu	4
Monday	20/12/2010	S/No: 013	Bumala auto repairs	Kisumu	3
Tuesday	21/12/2010	S/No: 014	Salama motors	Kisumu	3
Tuesday	21/12/2010	S/No: 015	Asante motors	Busia	3
Tuesday	21/12/2010	S/No: 016	Border point auto service	Busia	3
Wednesday	22/12/2010	S/No: 017	Butula motor repairs	Busia	2
Wednesday	22/12/2010	S/No: 018	Shibale motors	Mumias	3
Wednesday	22/12/2010	S/No: 019	Owaji motor services	Mumias	2
Total		**19**			**57**

TITLE: STAKEHOLDERS' PERCEPTIONS OF TECHNICAL, VOCATIONAL EDUCATION AND TRAINING: THE CASE OF KENYAN MICRO AND SMALL ENTERPRISES IN THE MOTOR VEHICLE SERVICE AND REPAIR INDUSTRY.

SECTION I: STUDY OBJECTIVES

1.1 (a) Did you have any formal training before you started this business?

> (*Probe: Where, how, when, what informed the choice of mode of training and type of career etc.*)

(b) If not, where did you receive your training? (*Probe: When, mode of training, what informed choice of place of training etc*.)

1.2.1 What criteria do you use when recruiting and selecting your employees?

> (*Probe: Gender, references, relationships, salaries/wage levels, appropriateness of skills, years of experience etc.*)

1.3 Do you employ TVET graduates? If yes please answer questions 1.4, 1.5 and 1.6. If No, answer question 1.7

1.4 How do you rate them in terms of their job related skills and employability?

> (*Probe: explanation on rating given*)

1.5 Do the TVET graduates need any additional training fit in your business?

> (*Probe: the additional training needed, how long it takes to adequately train them*)

1.6 Do the TVET graduates have any special attributes, like business ethics, social skills? (*Probe: explanation for answer given*)

1.7 How do your employees acquire the requisite skills required to do their work? (*Probe for details*)

1.8 In summary, are the skills that TVET is imparting meeting your needs?

(*Probe: deficiencies and also any positive aspects which they might see for TVET graduates.*)

1.9   Does the kind of training attained (TVET/informal/others) influence your employees' salaries and wages? (Probe: reasons for the response given)

1.10   Kindly offer any suggestions that can improve TVET training. (*Probe for clarity of suggestions*)

1.10   do you offer any kind of training?

1.11   If yes, how do you decide what to train, duration and how do you evaluate competency?

SECTION II: BUSINESS AND EMPLOYER INFORMATION

I sincerely appreciate your time and effort to respond to the questions above. Your answers will be treated in strict confidence. For my information, kindly provide the following information? (Tick as appropriate where applicable)

2.1   Business information

1. Name of business   (Optional) :
2. Location:
3. Type of vehicles serviced: (a) Automatic   [ ]   (b) Manual   [ ]   (c) All [ ]
4. Number of years business has been in operation:
5. Number of employees in motor vehicle service area: Male [ ]   Female   [   ]

2.2   Respondents' information

1. Gender	Male [ ]	Female [ ]
2. Age (Years)	Less than 18 [ ]	19 - 25 [ ]
	26 - 30 [ ]	31 – 35 [ ]
	35 – 40 [ ]	Above 40 [ ]
3. Highest level of formal education	Primary school [ ] Secondary School [ ]	
	Artisan Certificate [ ] Diploma [ ]	
	Others (Specify):	
4. How long have you ran this business?	0-3 yrs [ ] 4-6 yrs [ ] 7-9 yrs [ ] 10-12 yrs [ ] Over 13 yrs [ ]	
5. Position in the business	Proprietor/Owner [ ]	Manager [ ]
	Other (Specify)	
6. I would like to receive a summary of the results from this research	Yes [ ]	No [ ]
7. If yes, please enter your email address:		

This is the end of the questionnaire. Thank you very much for your cooperation!

TITLE: STAKEHOLDERS' PERCEPTIONS OF TECHNICAL, VOCATIONAL EDUCATION AND TRAINING: THE CASE OF KENYAN MICRO AND SMALL ENTERPRISES IN THE MOTOR VEHICLE SERVICE AND REPAIR INDUSTRY.

SECTION I: STUDY OBJECTIVES

1.1 (a)   Where did you train for the skills that you use at work?

(*Probe: Formal/informal, apprenticeship, on the job etc*)

(b)   Why did you choose to train there?

(*Probe: Cost, ease of training, superior quality etc.)*

1.2 (a) How do you rate TVET training?

(*Probe: level of skills, technology, and special attributes like ethics, social skills, etc.)*

(b) Kindly explain your rating?

1.3 (a)   Do TVET graduates face any unique challenges at work*?*

(Probe: on ease of getting a job, transfer from college to work, issues to do with technology and remuneration).

(b)   Suggest any possible interventions that could be employed to overcome the challenges faced by TVET graduates

1.4   Do you have a working relationship with any technical training institutions*?*

(*Probe: internship, attachments, subcontracting, use of the institutions machines*).

1.5   What do you think is the best aspect of a TVET education for your current job? (*Probe: reasons for response*).

1.6   Overall, can you offer any suggestions that can improve the effectiveness of TVET training? (*Probe: reasons for response*)

SECTION II: RESPONDENT INFORMATION

I sincerely appreciate your time and effort to respond to the questions above. Your answers will be treated in strict confidence. For my information, kindly provide the following information? (Tick as appropriate where applicable)

1. Gender	Male [ ]	Female [ ]
2. Age (Years)	Less than 18 [ ]	19 - 25 [ ]
	26 - 30 [ ]	31 – 35 [ ]
	35 – 40 [ ]	Above 40 [ ]
3. Highest level of formal education	Primary school [ ] Secondary School [ ]	
	Artisan Certificate [ ] Diploma [ ]	
	Others (Specify):	
4. How long have you been employed in this business?	0-3 yrs [ ] 4-6 yrs [ ] 7-9 yrs [ ] 10-12 yrs [ ] Over 13 yrs [ ]	
5. Position in the business	Artisan [ ]	Manager [ ]
	Proprietor/Owner [ ]	Other (Specify)

This is the end of the questionnaire. Thank you very much for your cooperation!

TOPIC: **STAKEHOLDERS' PERCEPTIONS OF TECHNICAL, VOCATIONAL EDUCATION AND TRAINING: THE CASE OF KENYAN MICRO AND SMALL ENTERPRISES IN THE MOTOR VEHICLE SERVICE AND REPAIR INDUSTRY.**

1. To what extent has TVET achieved the objectives for which it was developed?

   (*Probe for any available statistics in terms of self-dependency by alumni, increase in the required skills by industry, alleviation of unemployment problem*atic)

2. The 'Kenya Vision 2030' document notes ……"the mismatch between the level of skills imparted by the education system as a whole and the requirements of the labour market, must be corrected in order to meet the demands of the new economy". Is there anything which the Ministry is doing to address this comment? (*Probe on the mechanisms already employed and any other strategies envisaged that could arrest the situation*)

3. To what extent do you involve stakeholders in developing the mechanisms above? (*What role does each of the stakeholders play*?)

4. Are there any other challenges that Ministry continues to face in implementation of TVET in Kenya? (*Probe on: What are they? How are they being addressed*?)

5. Many of the TVET institution have been converted into fully fledged Universities or constituent colleges of established Universities. Do you foresee this development posing a challenge to the TVET? (*Probe: What challenges, how they are being addressed*).

6. There are many Ministries currently coordinating various aspects of education in Kenya. Do you consider this a challenge to the development of TVET (*Probe: what challenges, how are they being addressed?*)

7. In your opinion, what is the future of TVET in Kenya?

This is the end of the questionnaire. Thank you very much for your cooperation!

TOPIC: **STAKEHOLDERS' PERCEPTIONS OF TECHNICAL, VOCATIONAL EDUCATION AND TRAINING: THE CASE OF KENYAN MICRO AND SMALL ENTERPRISES IN THE MOTOR VEHICLE SERVICE AND REPAIR INDUSTRY.**

1. What is your enrolment in terms of gender?

2. How many courses does your institution offer? What type of students does each course attract? *Probe: gender, quality, family background.*

3. What are the entry requirements? Kindly stratify for different courses and levels.

4. What kind of learners does your college attract? What is their attitude to TVET?

5. How do you compare the skills that you offer in your institutions in relation to the needs of the industry?

6. How easy is it for your graduates to find employment? Do you have any data on employment levels for graduates and if so what do they show?

7. Do you ever make a follow up on your graduates to see how they are performing? If you do, what are your findings?

8. Do trainers encounter any challenges in their work? Explain your answer?

9. Are you consulted in the design of the TVET curriculum? Kindly elaborate.

10. (a) How often is the curriculum revised?

    (b) What requisite re-training do you get after the revision?

11. Do your students go for? *Probe: duration? Supervision? Performance?*

    (a) Attachments?

    (b) Internship?

12.   How do you keep abreast with the industry trends?
13.   Do you have regular staff development? Elaborate.

14. Overall give your assessment of the TVET training outcomes and process?

15. Can you offer any suggestions that can improve TVET?

TOPIC: **STAKEHOLDERS' PERCEPTIONS OF TECHNICAL, VOCATIONAL EDUCATION AND TRAINING: THE CASE OF KENYAN MICRO AND SMALL ENTERPRISES IN THE MOTOR VEHICLE SERVICE AND REPAIR INDUSTRY.**

1. How do you rate your training in relation to the job needs of the industry?

2. How did it help you?

3. In which areas do you think your training can be improved?

Appendix 8: Introduction letter

PhD Degree - Vocational Education and Training Study

Dear Participant,

I would appreciate your support for this project by participating in an interview which would last no longer than an hour. In the interview, the researcher is interested in finding out the contribution of Vocational Education and Training (VET) in job related skills and employability in the motor vehicle industry in Kenya. I am also interested in your perceptions of what would improve VET in Kenya.

All information gathered in the interview will be confidential, and no participants will be able to be identified in the final report. I am only interested in aggregate findings and not individual organisation responses.

Your participation will assist in compiling data relating to stakeholders perceptions and needs of the VET training in Kenya. If interested a summary of findings will be made available to you. This should provide an interesting point of comparison for you to see how your organisation needs and perceptions compare with others'. To receive a copy, you may email me at the address below, or alternatively make it known to the interviewer, and provide an address.

This research has been approved by the university's Human Research Ethic Committee. If you have any concerns or complaints about the research project and wish to talk to an independent person, you may contact:

Human Research Ethics Officer, Edith Cowan University,

270 Joondalup Drive,

Joondalup WA 6027

Phone: +61 8 6304 2170   Email: research.ethics@ecu.edu.au

If you are willing to participate in this research project, please sign the consent form and return it to the interviewer. You may terminate the interview and decline further participation at any time without giving any reason.

Yours sincerely,

Susan W. Ngure

School of Management, Edith Cowan University

Joondalup Drive,

Joondalup WA 6027

Telephone: 6304 5243/+61414848365

Email : s.ngure@ecu.edu.au

Appendix 9: Informed consent form

RE: Vocational education and training study

I understand the aims of the project, the benefits and potential risks and that my participation is voluntary. I realise that I can withdraw at any time. I understand that all information I have provided is confidential and will not be used for any other purposes.

Name: _____

Phone: _____

Signed: _____

Date: _____